A photograph of Lincoln Castle and Lincoln Cathedral. The castle's stone walls and towers are in the foreground, with the cathedral's spires visible in the background under a blue sky with light clouds.

# Annual Report of the Director of Public Health on the health of the people of Lincolnshire 2014





# Introduction

This is my fifth annual report as the Director of Public Health for Lincolnshire and my second since Lincolnshire County Council took on its public health responsibilities in April 2013. This year the report focusses on the major causes of premature mortality in Lincolnshire and provides my independent professional view on this element of the state of health in our area. It outlines the actions required by a range of organisations to improve the health of the public in this respect.

The causes of premature mortality are varied, and for this report I have concentrated on those causes which contribute the largest number of years of life lost in Lincolnshire: cancer; circulatory diseases; suicide; respiratory diseases; accidents and chronic liver disease. Along with a description of the scale of each of these issues in Lincolnshire, I have outlined the work that is being done to address and reduce the problems. At the end of the report I provide my thoughts on further actions that could be taken to tackle these causes of premature mortality in the county. It is intended that in conjunction with this annual report, a data compendium will be produced which will provide further data on the issues concerned and on differences at lower geographical areas where possible. This will be produced early in 2015 and shared through the Lincolnshire Research Observatory.

This year I have not included a chapter on protecting health. However, the Ebola outbreak in West Africa has reminded all of us that infectious diseases have not been conquered, and indeed our lifestyles and travel options give ever greater opportunities for infections to spread. My team (and others) put much effort into ensuring systems are in place to protect the people of Lincolnshire should that be necessary

I hope you find this report interesting and of help to you in your work.



## Dr Tony Hill

Director of Public Health,  
Lincolnshire County Council



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## Progress against last year's recommendations

In my 2013 Director of Public Health Annual Report I made a series of recommendations, and I would like to use this opportunity to provide an update on progress against these.

### On addressing health equity and outcomes for international migrants:

More organisations are now considering international migrant needs and any differences that these needs present for their commissioning and delivery of services. Progress has also been made in ensuring that commissioners and healthcare providers are fully aware of, and use, the available guidance for providing healthcare to international migrants. Organisations were keen to understand more about the guidance that is available and how this is being applied within their organisations.

Organisations have become more engaged with encouraging migrants to register with a general practice, and we are aware of a number that have carried out programmes and events in support of this recommendation, and have added information to their websites. Organisations have also worked together on programmes and events to increase awareness of the services and support that migrants are able to access.

There seems to have been less progress on improving the promotion of translation services and English language courses, and this is a recommendation which will need continuing focus.

### On tobacco control:

A work plan for 2015/16 has been developed and implemented in line with the local and national Tobacco Control Strategies. Alliance members are also reporting each quarter on their contribution and progress.

Behavioural support, with and without pharmacotherapy, is now provided through a broad network of smoking cessation providers. This allows behavioural change techniques to be

used to address the needs of long standing smokers when they are ready to stop smoking. A review has recently taken place, and the contract for the stop smoking service in Lincolnshire is to be tendered out based on national standards.

In order to deter young people from taking up smoking, work with young people has been developed to include greater education in smoking awareness and a peer support programme. Young people who are not in employment, education or training are a focus for targeted intervention.

Work on illicit and counterfeit public awareness campaigns has continued, with intelligence reported to Trading Standards and the police, who have increased the number of raids (and prosecutions) on commercial premises.

A regional post is now in place, working with local Trading Standards to coordinate collaborative activity regionally and nationally with the aim of interrupting the supply chain for illicit and counterfeit tobacco.

Over 2,900 front line staff have been trained in Making Every Contact Count (MECC), to ensure that they can advise clients and refer them to appropriate stop smoking services. This has resulted in over 1,900 additional smoking cessation referrals in 2013/14. Smokefree Homes and Cars and Smoking Cessation remain core to this training.

NHS organisations are adhering to smokefree legislation, and their buildings and enclosed public spaces are smoke free. United Lincolnshire Hospitals Trust have also been considering whether their smokefree policy could be extended further within their grounds. Guidance is being strengthened nationally around stop smoking support to mental health service clients.

### On Public Health and spatial planning:

Planning consultations are now channelled through the NHS England Local Area Team. This helps to ensure that there are thorough, timely and co-ordinated communications on local

planning developments. A number of meetings have been held, acting as a platform for discussions, and this approach will continue to be reviewed as co-commissioning moves forward.

Partnership work continues in order to improve health through spatial planning. Officers from a range of disciplines have contributed to the development of a National Advisory Guide on planning healthy-weight environments. Both this and continued input into Public Health England's 'Healthy People, Healthy Places' reference group and Spatial Planning and Health Group have informed further national policies and guidance. Discussions are under way on establishing a regional learning forum on the health and planning agenda.

### **On Public Health skills training:**

'Prevention is better than cure' has remained a core principle in the implementation of Lincolnshire Health and Care (LHAC).

Developing the wider Public Health workforce has been one of the key priorities in our training programme this year. Several training modules have been implemented around understanding health improvement across the public sector workforce in Lincolnshire, recognising the whole of the sector as contributors to public health. This has started to shift the culture across health and local authority workforces so that improved support is offered to citizens to take greater responsibility for their own healthcare and wellbeing.

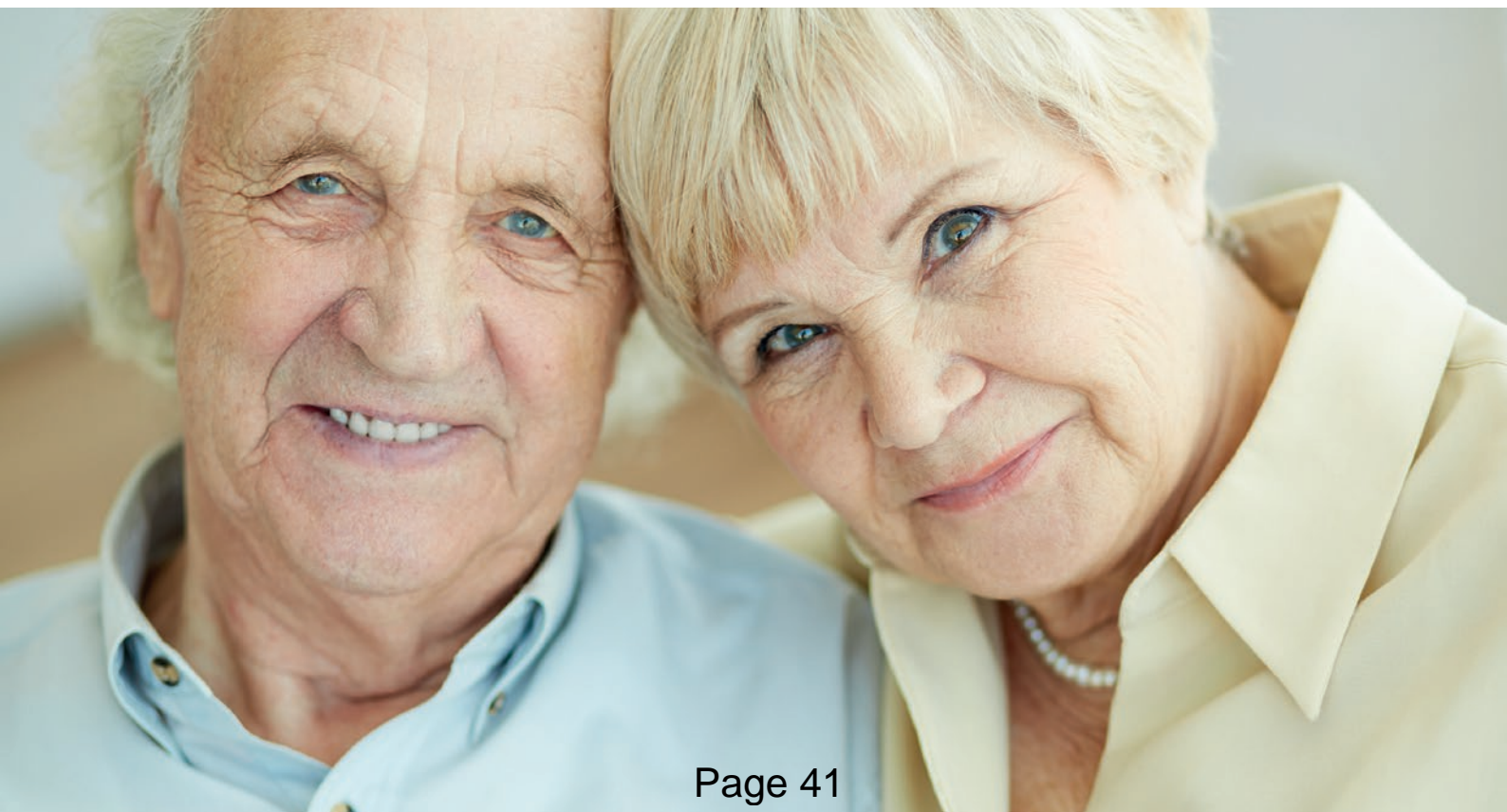
The role of the public health practitioner as educator has been developed through the 'Train the Trainer' programme. This has increased capacity for promoting healthy lifestyles across the workforce, such as, enabling delivery of an accredited Royal Society of Public Health 'Understanding Health Improvement' course.

There has also been progress in rolling out MECC and the 'Train the Trainer' model to practitioners outside of public health, to Adult Social Care and externally to the private sector for example, supporting the integrated health and social care agenda. Links are being established to embed MECC into the LHAC programme as there are clear overlaps in the objectives of the two.

### **On protecting the health of the people of Lincolnshire:**

A comprehensive sexual health needs assessment has been undertaken. This explores issues around access, and will ensure that future service provision is flexible enough to meet the needs of Lincolnshire residents and the concepts encompassed in the Lincolnshire Health and Care Review. The assessment has looked at services beyond those commissioned by Lincolnshire County Council as the different elements of sexual health service provision are largely inter-dependent. The needs assessment will provide evidence and an opportunity to influence other commissioners and improve the quality of commissioned services.

Across all areas of health protection, we have been working in partnership with other organisations, such as NHS England, health and social care providers, and the voluntary sector, to ensure that health protection functions are integrated. An example of this is our close working with NHS England to ensure that HIV services are integrated into the wider sexual health service when those services are re-commissioned. We have also taken a multi-disciplinary approach to infection prevention and control, and have identified opportunities for training within areas of activity which are new to Public Health, such as the Coroner Service.





# Premature Mortality in Lincolnshire

## Background

Both locally and nationally, life expectancy and overall health continue to improve. However the UK underperforms in comparison to our international peers in terms of premature mortality.<sup>1</sup>

In Lincolnshire, life expectancy at birth is currently 83.0 years for females and 79.2 years for males, compared to very similar figures of 83.1 years and 79.4 years respectively in England. The trend has been generally upward over many years<sup>2</sup> but these are average life expectancy figures for the county's population as a whole. Individual life expectancy is influenced by a whole range of determinants of health, including social and economic factors, the physical environment and an individual's own genetic characteristics and behaviours.

Premature mortality, classed as deaths of those who are under the age of 75, accounted for more than 2,350 deaths per year on average in Lincolnshire from the years 2010 to 2012 inclusive.<sup>3</sup> The majority of these deaths were due to non-communicable diseases, considered to be wholly or partially preventable, including some forms of cancer, circulatory diseases, respiratory diseases, and chronic liver disease. Other potentially preventable causes included accidents and suicides. Over the three years, more than 7,000 people in Lincolnshire died before reaching 75, accounting for around 95,000 years of life lost in total, and an average of over 13 years lost for each person who died prematurely. Despite this, and an estimated return on investment in the order of £12 saving (in primary care costs alone) for every £1 spent on primary prevention, only an estimated 4% of the national healthcare budget is spent on prevention.<sup>1</sup>

Directors of Public Health, supported by their teams, play a major role across health improvement, health protection and healthcare public health (the design and support of effective health services), through direct delivery, leadership and advice to others. Many of the direct interventions in place to tackle premature mortality are detailed in this report. However, public health within the local authority setting also has the opportunity to influence the social, economic and environmental determinants more widely. In this way, we can decrease the scale of premature mortality and waste of life in Lincolnshire, and the total years of life lost to both communicable and non-communicable disease.

## Measuring Premature Mortality

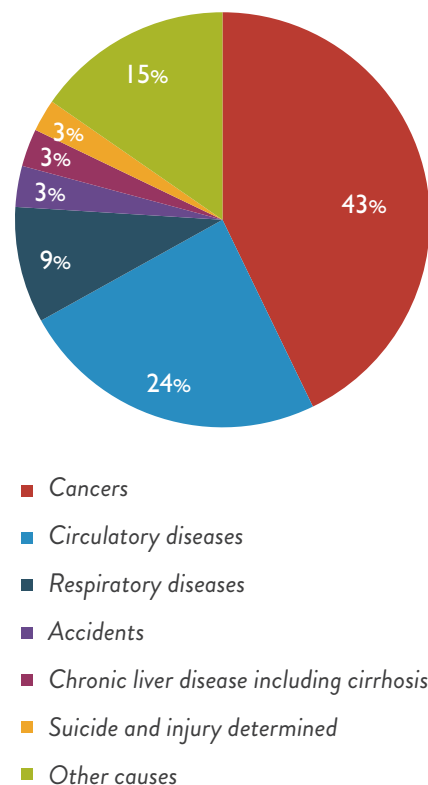
Potential years of life lost (PYLL) is one of the main measures of premature mortality. It is used to compare the relative contribution of different causes of premature death within a population, and can therefore be used by health planners to define priorities for the prevention of such deaths. It can also be used to compare premature mortality across different populations for one specific cause of death.

PYLL is calculated as the length of time a person would have lived had they not died prematurely, using under 75 years of age as a statistical threshold to define 'premature'. By including the age at which death occurred in its calculation, the indicator better quantifies the burden, or impact, on society from the specified cause of mortality than mortality figures alone would allow. The indicator sums the number of deaths at each age up to 74 years, multiplying by the total years remaining up to age 75 years. It is standard practice to use a 3-year rolling total in years of life lost calculations alongside a 3-year rolling population denominator to create an average annual rate for the period. Infant deaths are omitted from the calculation as they are most frequently as a result of causes specific to this age group, and have different aetiologies from deaths later in life.<sup>4</sup>

## Causes of Mortality in the under 75s in Lincolnshire

Data from the Health and Social Care Information Centre (HSCIC) show that for the years 2010 to 2012, in Lincolnshire there were 446 PYLL annually per 10,000 residents under the age of 75 (as a directly age standardised rate).<sup>3</sup> This is a very similar rate to the England and Wales figure of 442 years. The causes of these deaths are shown in figure 1.1.

Figure 1.1: Deaths of people aged under 75 years by cause in Lincolnshire, 2010/12



Source: Primary Care Mortality Database, Health and Social Care Information Centre

The most common cause of mortality among people aged under 75 was cancer, accounting for four in every ten premature deaths and 165 PYLL per 10,000 residents. Although mortality from lung cancer is lower in the county than nationally, this form of cancer still accounts for the largest proportion of premature mortality through cancer, being around one fifth of all cancers (and of the 'Cancers' segment in figure 1.1).

Circulatory diseases were the second most common cause of premature death. Mortality rates from stroke and coronary heart disease have improved dramatically over the last two decades, but circulatory diseases as a whole still account for around a quarter of premature deaths in the county. High blood pressure, lipid levels and smoking account for up to three-quarters of coronary heart disease incidents. Despite recent reductions, these risk factors remain at the heart of health inequalities between the socio-economic groups.<sup>5</sup>

Between them, cancer and circulatory diseases account for more premature deaths in Lincolnshire than all other causes combined, being two thirds of the total.

Other major contributing causes of premature mortality in the county include chronic obstructive pulmonary disease (pneumonia is also discussed in the respiratory disease chapter of this report), accidents, chronic liver disease and suicide. The rates of all of these have been reducing in recent years, apart from that for chronic liver disease, which has been increasing in the UK in contrast to the decline in most other European countries. This rise has been linked to obesity and to drinking at harmful levels, both of which have increased nationally and locally.

The Global Burden of Disease Study<sup>6</sup> found that smoking, high blood pressure, high body mass, physical inactivity and alcohol are the five main risk factors for ill health and many of the major causes of premature mortality. In Lincolnshire, a fifth of the adult population are smokers.<sup>7</sup> Approximately 10% of children in reception year in the county are obese (rising to a fifth in year 6)<sup>8</sup> and although only 12% of adults registered with a GP are on a GP obesity register,<sup>9</sup> it is estimated that in reality more than two-thirds are overweight or obese.<sup>10</sup> Over the last five years, there has been a generally increasing trend in alcohol-attributable hospital admissions for the county as a whole and for its districts. It is promising though, that the most recent available figures (for the year 2012/13) for the districts of Lincoln, East Lindsey and West Lindsey indicate a slight fall for the first time in five years!<sup>11</sup>

## Core Strategies and Programmes Contributing to Reducing Premature Mortality

The risk factors and determinants for many causes of premature mortality are specifically addressed in various national and local policies, strategies and guidance. Lifestyle and behaviour play a predominant role in premature mortality, and individual risks are frequently associated with more than one disease or condition.

The NHS Mandate for 2014/15 sets out the ambition for England to become one of the most successful countries in Europe at preventing premature deaths. The associated NHS forward plan<sup>12</sup> highlights the issues of obesity, smoking and alcohol-related conditions, and the strain put onto the NHS of treating these. The plan also draws attention to the importance of prevention in tackling health inequalities, as well as the importance of empowering and motivating individuals to improve their own health, rather than being service dependent, and calls on local authorities to increase their spending and activity in these areas.

The Department of Health's programme 'Living Well for Longer: A Call to Action on Avoidable Premature Mortality' outlines the ambition to reduce deaths from the major preventable causes. Public Health England also have a plan, 'From Evidence into Action: Opportunities to Protect and Improve the Nation's Health', which identifies seven priorities addressing the main risk factors for many causes of premature mortality, including tackling obesity, reducing smoking and reducing harmful drinking.

In addition to these broad health strategies, there are a number of plans and reports which concentrate on individual risk factors. These include the Government's:

- 'Healthy Lives, Healthy People: A Tobacco Control Plan for England',
- 'Healthy Lives, Healthy People. A Call to Action on Obesity in England',
- the national alcohol policy, which highlights the need for local support for individuals and organisations in tackling the associated issues of alcohol misuse,
- the national drug strategy 'Reducing Demand, Restricting Supply, Building Recovery: supporting people to live a drug free life',
- guidance on the volume, duration and frequency of physical activity required to maintain fitness and health, under the title 'Start active, stay active', and
- the national initiative 'Change 4 Life', which supports families in making changes in their lives to support a healthier lifestyle.

The NHS Health Checks programme, under the responsibility of local authorities, invites 40-74 year olds, who have not already been diagnosed with heart disease, stroke, diabetes, kidney disease or certain types of dementia, to attend a health check as part of a five-year rolling programme. Following the health check, support and advice are offered, alongside medical intervention, as necessary. The health check provides an opportunity to identify any behavioural and lifestyle-related risk factors associated with causes of premature mortality, and to provide advice to those who attend.

NHS Health Check data shows that just over 45,500 health checks were offered to individuals in Lincolnshire in 2013/14.

From an eligible population of 232,000, this met the target of 20%, and was higher than the England average of 18.5%. Of the people in Lincolnshire who were offered the health check in 2013/14, 57.7% participated in the programme, which again was higher than the England average of 49% for that year. This means that in Lincolnshire, more than 5,000 additional patients received health checks than would have been the case if national rates of invitation and participation were matched.

Throughout these strategies and policies, there is a clear emphasis on a cultural shift. All highlight the importance of prevention and harm reduction in tackling these health issues, along with whole stakeholder engagement across services. This is mirrored in the Joint Health and Wellbeing Strategy (JHWS) for Lincolnshire, which highlights the need for individuals to take more responsibility for their own health, with services providing vital brief advice, and, where needed, additional support to individuals who wish to make healthier lifestyle changes. The JHWS highlights the Health and Wellbeing Board's ambitions to reduce the number of people who are overweight or obese, support people to be more active more often, support people to drink sensibly and reduce or stop illegal drug use. The strategy explains how this will be done locally, using a multi-disciplinary approach, through locally developed networks and partnerships.

Lincolnshire's Joint Strategic Needs Assessment provides the evidence base for the JHWS. It has core themes such as ill health and inequalities, which cut across the determinants and risk factors for premature mortality. It also includes specific topics such as obesity, alcohol, drug misuse, food and nutrition, physical activity and smoking, as well as some of the individual causes of premature mortality including respiratory diseases and circulatory diseases, cancer, suicide and road traffic accidents.

Many local organisations' own plans tackle the causes of premature mortality. The Clinical Commissioning Groups' Strategic and Operational Plans provide detail on how they are to address the requirements set out in the various outcome frameworks, and how they will deliver the Lincolnshire Health and Care (LHAC) programme. The Lincolnshire County Council Business Plan, particularly the Promoting Community Wellbeing and Resilience area, is specifically relevant to these public health issues.

The Lincolnshire Tobacco Control Strategy (2013-2018) includes a range of interventions, such as helping tobacco users to quit, reducing exposure to second-hand smoke and stopping promotion of tobacco products. Smokers are four times more likely to quit smoking if they access help from a 'stop smoking service', rather than trying to quit on their own. The Phoenix Stop Smoking Service is currently the commissioned service for Lincolnshire, and seeks to reduce the overall prevalence of tobacco users in the county.

In 2013/14, the Lincolnshire Phoenix Stop Smoking Service achieved 5,291 'four week quits'. Primary care provided a

third of these, and although analysis indicates that fewer quits are coming from primary care each year, it is encouraging that the quit rate for those who give up after using the service is 55%, which is higher than the national average. Over 23,500 homes across Lincolnshire are registered with the Lincolnshire Smokefree Homes programme, thus protecting just over 24,000 children from second-hand smoke. This makes it one of the biggest and most effective health improvement programmes to date.

Lincolnshire's Public Health Team, with many key partners, has developed a drug and alcohol strategy. This has been designed to promote responsible drinking and prevent alcohol and drug-related harm, tackle alcohol and drug-related crime and anti-social behaviour and support delivery of high quality alcohol and drug treatment systems. Between March 2012 and March 2014, alcohol treatment services in the county saw an increase of 56%, from 845 to 1,320 people engaging in the service. In October 2014, Public Health England announced a national increase of over 5% in people accessing treatment services since the previous year. Higher levels locally could be due to successful promotion, referral and policy improvements over the period. In 2013/14, there were 400 successful treatment completions across Lincolnshire.

Obesity and physical activity programmes are also run across the county. These include almost 4,000 people attending 12 weeks of funded Weight Watchers sessions each year, and an additional 2,200 people attending local cooking and growing sessions. Physical-activity programmes, such as Vitality, Exercise Referral, and Health Walks, have attracted over 8,000 people throughout the county (all of which are aimed at getting more people more physically active). The Health Trainer Scheme also supports and motivates over 1,800 people each year to make healthier lifestyle choices, and provided brief advice to more than 5,000 people.

Public Health continues to work with local organisations to develop a culture of health and wellbeing in other ways, whether by delivering Making Every Contact Count (MECC) training to organisations or by working with local spatial planners to ensure that future developments promote healthy lifestyles. It is expected that, in this way, an all-encompassing approach will be achieved, which will reduce the number of years of life lost through preventable premature mortality.

The following chapters discuss the main causes of premature mortality in more detail, describing the conditions and their risk factors, and outlining the work that is being done to tackle them.





# Cancer

## The Condition

Cancer is a series of diseases of the body cells where the cells grow in an uncontrolled way. A group of abnormal cells may form and become a tumour which can be non-cancerous (benign) or cancerous (malignant). There are many different types of cancer which have different characteristics, including the speed by which they grow and spread, and the way they respond to treatment.

Cancer is a key public health priority. It affects around one in three people at some point in their lives, and has not only a devastating human impact, but also a significant financial impact on the NHS and the wider economy.

Although cancer is most common in older people, it is also the leading cause of premature mortality in Lincolnshire for those under 75 years of age.

## Causes and Risk Factors

An individual's risk of being diagnosed with cancer depends on many factors, including their age, lifestyle and genetic factors. Approximately half of all cancers are preventable by changes in lifestyle, with regard to smoking, obesity, alcohol consumption and exposure to the sun.

The way in which these lifestyle factors influence an

individual's risk varies depending on the type of cancer. For example, there is clear evidence that smoking is a major cause of lung cancer, and is also a significant risk factor in other cancers, such as bladder cancer. Stopping smoking at around the age of 30 can lead to a gain of almost 10 years of life expectancy, and stopping at age 60 can lead to a three-year gain in life expectancy.

Whilst specific dietary factors can influence the development of some cancers, including breast and prostate cancer, the associations are more complex.

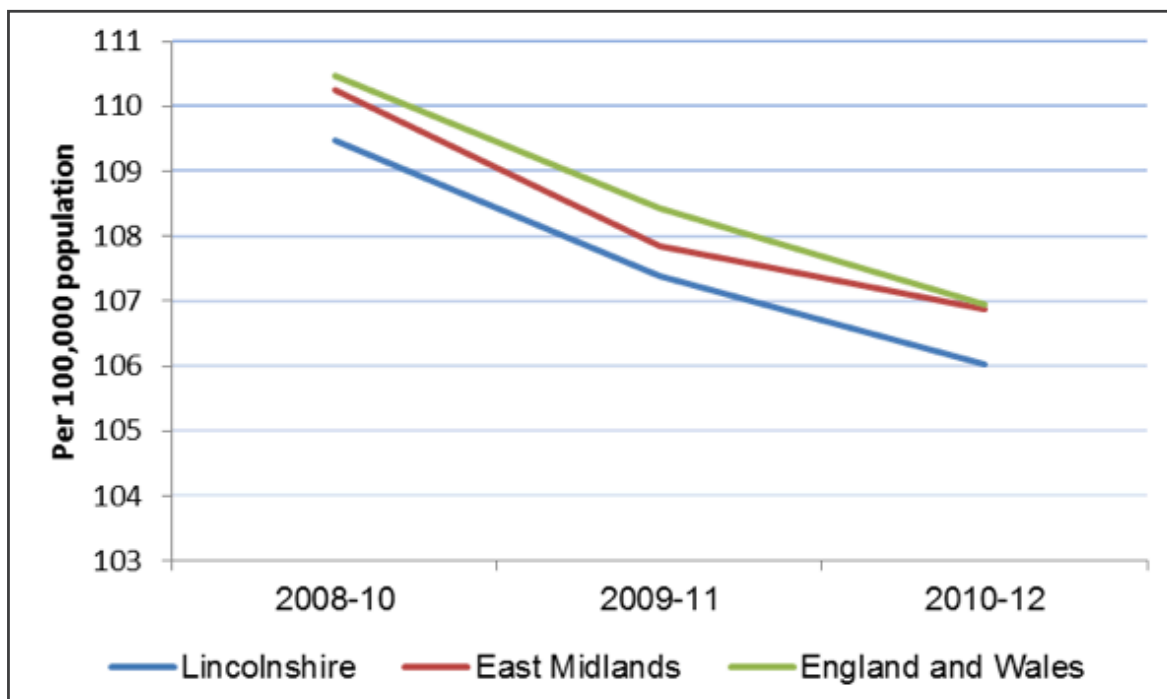
One of the biggest risk factors is increasing age. Cancer can develop at any age, but it is most common in older people. More than three out of five cases are diagnosed in people aged 65 or over, and over a third are diagnosed in those aged 75 or over.<sup>13</sup>

## Facts and Figures

In Lincolnshire, between 2009 and 2011, there were 8,619 new cancer registrations amongst people aged under 75 years (a directly age standardised rate of 421 per 100,000 population). The rate amongst males was higher than that for females (445 and 398 per 100,000 respectively), and overall it was higher than the England and Wales figure (408 per 100,000 population).

Premature mortality rates for cancer have decreased over the last decade, as shown in figure 2.1. However, it remains one of the main causes of mortality.

Figure 2.1: Mortality from all cancers, directly aged standardised rates per 100,000 population aged under 75, 3-year pooled data



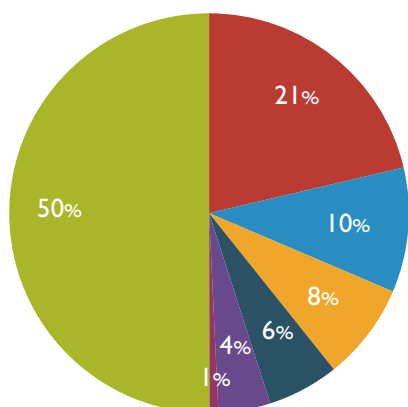
Source: Primary Care Mortality Database, Health and Social Care Information Centre



Overall, premature mortality rates are slightly higher for males than for females. Rates for lung, colorectal and oesophageal cancers are considerably higher amongst the male population, but a number of cancers predominate in females, for obvious reasons. These include breast, cervical, uterine and ovarian cancers.

In Lincolnshire, between 2010 and 2012, there were over 3,000 deaths from cancer (in people under 75 years of age). This represents more than 40% of all deaths amongst this age group. Lung cancer accounted for a fifth (21%) of all cancer deaths, followed by colorectal cancer (10%) and breast cancer (8%), as shown in figure 2.2.

Figure 2.2: Deaths from cancers, by cancer type, in people aged under 75 years in Lincolnshire, 2010/12



- Lung cancer
- Colorectal cancer
- Breast cancer
- Oesophageal cancer
- Prostate cancer
- Cervical cancer
- Other cancers

Source: Primary Care Mortality Database, Health and Social Care Information Centre

A number of national outcomes frameworks exist which include relevant data. The Public Health Outcomes Framework (PHOF) provides a basis for understanding differences in life expectancy and healthy life expectancy between communities, nationally. Premature mortality from cancers that are considered preventable is one of the indicators in this framework, and shows that, in Lincolnshire between 2011 and 2013, there were 1,684 cancer deaths that were considered preventable (by public health interventions) from a total of 3,021 cancer deaths amongst people under 75 years old. An outcome in the NHS Outcomes Framework (NHSOF) is to reduce the Potential years of life lost (PYLL) that are amenable to healthcare (i.e. premature deaths that should not occur in the presence of timely and effective healthcare). Between 2011 and 2013, there were 17,000 PYLL (721 deaths) from cancers amenable to healthcare across the four Clinical Commissioning Group (CCG) areas which make up Lincolnshire.<sup>4</sup>

Within Lincolnshire, years of life lost to all cancers by CCG are shown in figure 2.3. During the 3-year period from 2010 to 2012, over 1,100 people died prematurely from cancers in Lincolnshire East CCG. The rate of PYLL from cancers amongst the Lincolnshire East patients was 170.5 per 10,000 population; higher than the national rate and significantly higher than any other CCG in Lincolnshire. These differences can be partially explained by lifestyle factors, including higher levels of obesity and smoking prevalence. Although mortality rates for cancers are also higher in Lincolnshire East CCG, the differences in these are not statistically significant, perhaps suggesting that patients were more likely to die from cancer at a younger age. Additional analysis of age-specific mortality rates has reflected this, indicating higher than average mortality rates amongst people in their 40s in this CCG. At lower geographic levels, there is a correlation between deprivation and cancer, and this is reflected in the higher premature mortality rates from cancer seen along the coastal strip of East Lindsey, a more deprived area of the county.

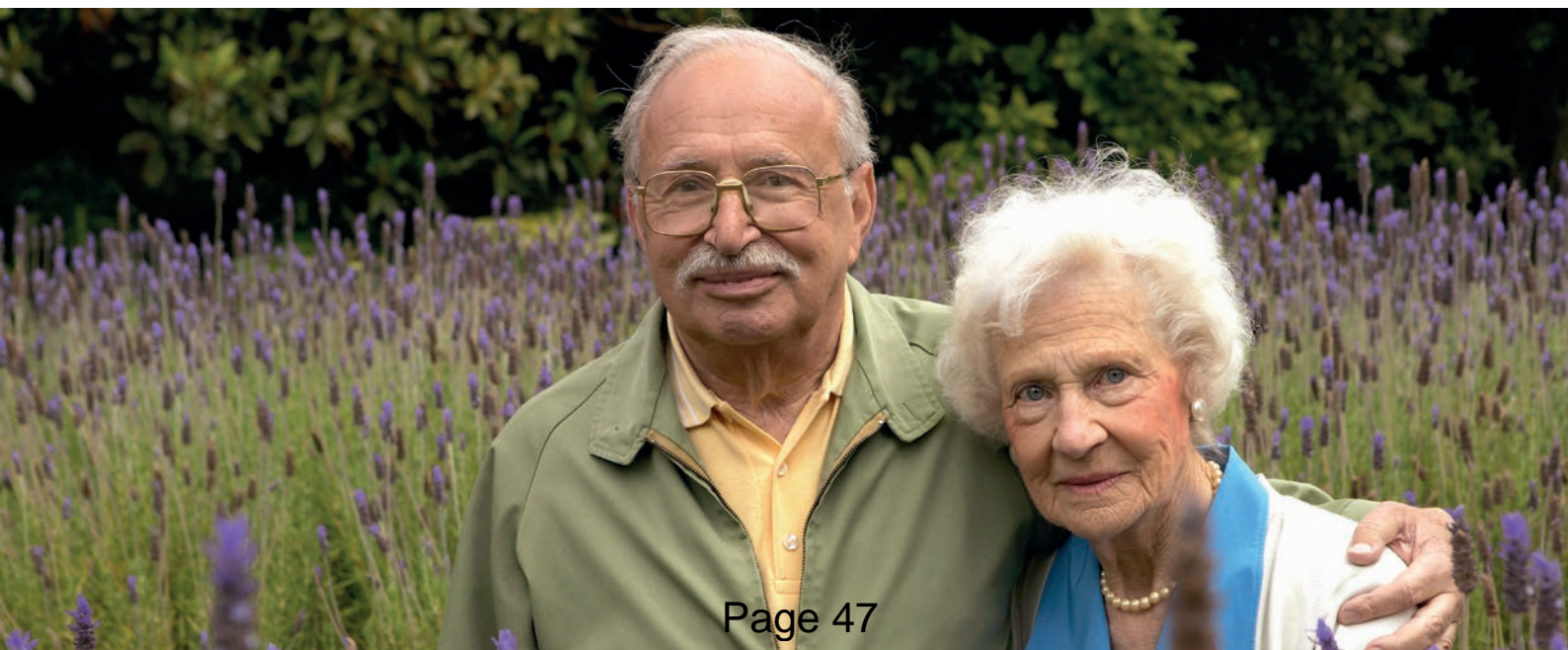
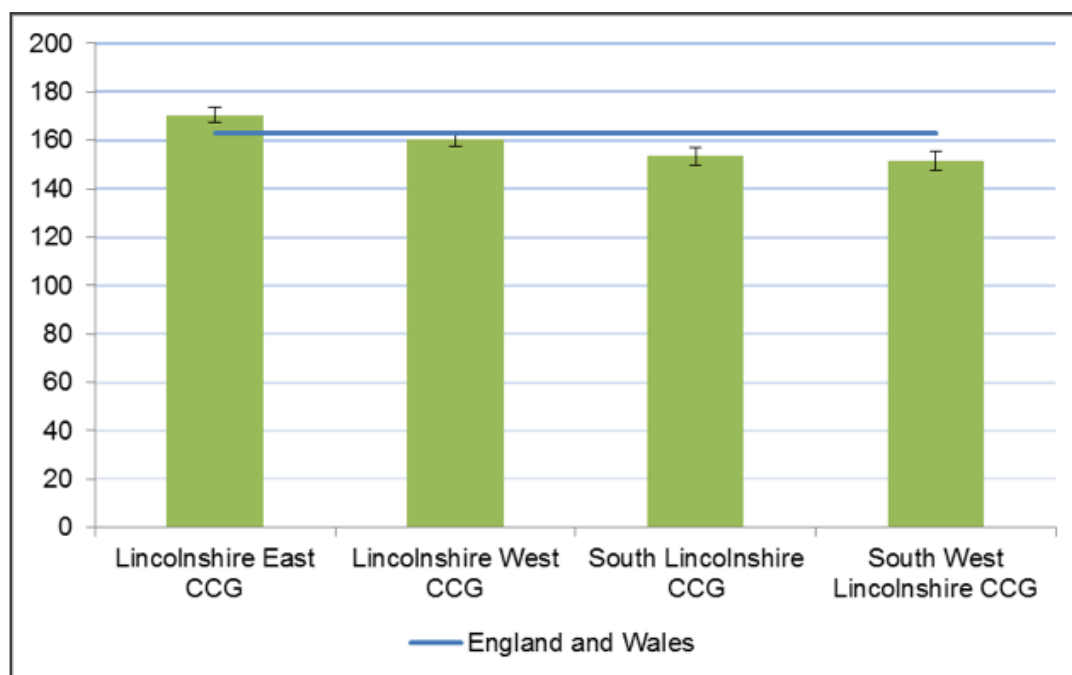




Figure 2.3: PYLL from all cancers, directly standardised rate per 10,000 population in Lincolnshire, 2010/2012



Source: Primary Care Mortality Database, Health and Social Care Information Centre

## Policy and Strategy

National frameworks provide the basis upon which government policy and strategy is shaped. Reducing premature mortality from cancer is an aim shared between the NHS Outcomes Framework and the Public Health Outcomes Framework. Both frameworks include indicators that impact on cancer prevalence and mortality. These include indicators of smoking prevalence, excess weight in adults, cancer diagnosed at stage 1 and 2 and cancer screening coverage. There are also indicators which relate to health inequalities, such as excess mortality (<75 years) in people who have serious mental illness (SMI). This is one of the improvement areas in the NHS Outcomes Framework. Higher rates of premature mortality among people with a SMI are due to a number of health issues, including cancer. Therefore, prevention, early intervention and early diagnosis of cancer amongst people with a SMI are all essential to reduce the rate of premature mortality in this group. 'Everyone Counts: Planning for Patients 2014/15 to 2018/19' from NHS England provides information on the many targets that are relevant for cancer. The NHS Constitution includes measures on cancer waits (2 weeks, 31 days and 62 days). The CCG Outcome Indicator Set (2014/15) includes indicators on cancer mortality, survival and stage at diagnosis. Public health measures for NHS England include coverage for the national cancer screening programmes. The Adult Social Care Outcome Framework includes measures relevant to cancer, such as enhancing quality of life for people with care and support needs.

In terms of the general health strategies, tackling premature deaths from cancer is a key part of the NHS Mandate, and a cause of death to be reduced through the Department of

Health's 'Living Well for Longer: A Call to Action on Avoidable Premature Mortality' programme.<sup>15</sup> Public Health England's plan 'From Evidence into Action: Opportunities to Protect and Improve the Nation's Health'<sup>16</sup> identifies priorities which include the main risk factors for cancer. 'Healthy Lives, Healthy People: A Tobacco Control Plan for England' and 'Healthy Lives, Healthy People. A Call to Action on Obesity in England' are both also very relevant national strategies focussing on specific cancer risk factors.

Also nationally, the Department of Health's more specific strategy 'Improving Outcomes: A Strategy for Cancer'<sup>17</sup> sets out the approach that health and care services should take to improve outcomes for cancer patients.

Locally, 'Improving Outcomes in Cancer – A Strategy for Lincolnshire 2014-2019', is in development, specifically to address the requirements of the National Strategy. Other local strategies relevant to cancer include the Lincolnshire Tobacco Control Strategy 2013-2018, the Lincolnshire Alcohol and Drug Strategy, and the Lincolnshire County Council Business Plan, particularly the area relating to Promoting Community Wellbeing and Resilience.

A number of the themes of the Lincolnshire Joint Health and Wellbeing Strategy are very relevant to cancer, such as 'Promoting Healthier Lifestyles' and 'Delivering Care for Major Causes of ill Health and Disability'. Cancer is also a topic of the Joint Strategic Needs Assessment, relating to core themes including ill health and inequalities.

It is not easy to assess the specific impact of interventions on reducing premature mortality. In their resource for commissioners,<sup>18</sup> NHS England have made assumptions about

the cumulative effect of a range of measures designed to promote prevention and early diagnosis, rather than identifying benefits of specific interventions. However, there is strong evidence on the impacts of earlier diagnosis (diagnosing a proportion of cancers at stages 1 or 2 instead of at stages 3 or 4).

## How is Premature Mortality from Cancer Being Addressed?

Addressing premature mortality from cancer requires organisations to work together to implement a range of interventions, including prevention, early diagnosis and treatment/care. These approaches will address those cancers that are preventable (by public health interventions) and amenable (to early diagnosis and effective treatment).

Various evidence-based approaches and interventions which NHS and Local Authority Commissioners have a role in commissioning have been identified for addressing premature mortality from cancer. These include:

- cancer prevention (including smoking cessation, weight management, and sensible alcohol consumption),
- effective population screening (there is a lower uptake for screening programmes, such as for cervical screening, amongst certain groups of the population),
- promoting symptom awareness to address late presentation of patients with possible cancer symptoms, and thus promote the earlier diagnosis of cancer,
- effective planning of diagnostic capacity to support early diagnosis of cancers, and
- monitoring variation in the patterns of referral, and of diagnosis and outcome rates for cancers amongst local practices, and working with local GPs to understand the reasons for the variation.

NHS England's resource for commissioners provides guidance on reducing premature mortality, and the National Institute for Health and Care Excellence (NICE) also provides a range of guidance in relation to specific issues.

Across the Lincolnshire health and social care sector, interventions are in place to address premature mortality from cancers. The LHAC programme and various clinical workstreams are supporting delivery of some of this work, and the Lincolnshire Strategic Cancer Board has a role in overseeing elements of it. In addition, the East Midlands Cancer Strategic Clinical Network aims to improve services, and to improve both the quality of care and outcomes for patients.

## Prevention

Prevention programmes that address the behavioural risk factors which contribute to premature mortality from cancer

are commissioned and provided. Many of these are shown in appendix 1. Those with very strong links to cancer prevention include the tobacco control, weight management, alcohol reduction and Making Every Contact Count initiatives.

The Smokefree Lincolnshire Alliance supports and facilitates the adoption and delivery of government and local smokefree policies to reduce harm caused by tobacco consumption. The Lincolnshire Tobacco Control Strategy includes a range of interventions across a number of strands, such as helping tobacco users to quit and reducing exposure to second-hand smoke. Lincolnshire County Council commissions the Phoenix Stop Smoking Service, supporting people to stop smoking. In 2013/14, the service helped 5,291 people to quit successfully.

Through Lincolnshire County Council, Weight Watchers is commissioned to provide a free 12-week programme to adults with a BMI of over 30 across Lincolnshire. During 2013/14, there were 3,854 referrals, of which 64% completed 10 weeks or more of the programme. A 12-week exercise referral programme and a health walks programme are also commissioned. During 2013/14, 4,640 referrals were made to the Lincolnshire Exercise Referral Programme, with approximately 70% completing the programme.

The Lincolnshire Alcohol and Drug Strategy comprises three main themes: promoting responsible drinking and preventing alcohol- and drug-related harm, tackling alcohol- and drug-related crime and anti-social behaviour, and delivering high quality alcohol- and drug-treatment systems.

Making Every Contact Count (MECC) raises awareness of health and wellbeing, and encourages and helps people to make healthier choices to achieve positive long-term behaviour change. The focus on cancer-related risk factors (obesity, physical activity, smoking and alcohol intake) directly addresses the prevention of premature mortality from some forms of cancer. MECC provides training and support for organisations to deliver consistent health messages in multiple ways. Lincolnshire County Council is leading the development of the MECC programme in the county.

## Screening and treatment

NHS England's objective to ensure effective commissioning of certain public health services includes cancer screening programmes. Local Authority Public Health is not responsible for commissioning cancer screening programmes, although it does have a significant assurance role in delivering effective programmes, which includes encouraging participation. The Early Presentation of Cancer (EPOC) programme has been commissioned in Lincolnshire to take forward cancer prevention messages in an informative manner, and in a way that is appropriate to individual groups and communities. It encourages people with signs and symptoms of cancer to present to their GP earlier, to improve outcomes. The programme is built upon community development principles. It works with CCGs and primary care to promote screening and early diagnosis, and has supported national campaigns,

such as the 'Be Clear on Cancer' campaign.

The national bowel screening programme was introduced in 2006 for all people aged 60-69 years. From 2008, it has been extended gradually to include people aged 60-74 years. Data from March 2012<sup>19</sup> shows that in Lincolnshire, 60.8% of all people invited for screening in the previous 12 months were screened within 6 months of invitation. This was higher than the national figure of 55.3%. Two-and-a-half-year coverage (the proportion of eligible people screened in the previous 30 months) amongst those aged 60-74 years was 53.8%, also slightly above England's figure. This was despite the fact that, in Lincolnshire, only small numbers of people aged over 70 were invited for screening. Future data will better illustrate what impact the extension of the eligibility criteria has had.

Targeting work has taken place, and continues, to encourage take-up of cervical screening in specific communities where coverage needs to be improved. The proportion of eligible female patients, whose records show that a cervical smear test has been performed in the last five years, was higher in Lincolnshire than in England in 2013.<sup>20</sup> Lincolnshire East CCG had the lowest coverage at 81.8%, being similar to the national level (82.0%), and the other Lincolnshire CCGs had noticeably higher results, with 85.2% in Lincolnshire West CCG being the highest in the county.

The phased extension of the breast screening programme age to 47 to 73 years (from 50 to 70 years in 2012) is also being implemented, and work is taking place to address staffing and capacity issues in the Breast Screening Service. Although there was a small decline in the uptake of breast screening in Lincolnshire between 2011 and 2013, mirroring the national trend, breast screening coverage remained at a significantly higher level in Lincolnshire than in England. In the county, breast screening coverage was 80.7% of eligible woman aged 53-70 years (the age reported by the HSCIC) in 2013, compared to 76.4% nationally.<sup>21</sup>

Lincolnshire Public Health and NHS England are both represented on the Lincolnshire Health Protection Board, which was established to address specific areas for all of the national screening programmes. During 2013/14, 32 new volunteers were recruited through the Early Presentation of Cancer Programme (EPOC), and provided support within their communities. A variety of campaigns were promoted, including the 'Be Clear on Cancer' campaigns, which have raised the profile of screening programmes and of the signs and symptoms of major cancers. There is evidence that targeted work to promote cervical screening amongst people aged 25-49 years has led to an increase in uptake in some areas of the county.

In terms of cancer treatment, Lincolnshire's Clinical Commissioning Groups and NHS England are responsible for commissioning services that meet the cancer waiting time targets and provide the best outcomes for patients.

## Next Steps

Cancer is one of the main causes of mortality and premature mortality, and is a key public health issue. As demonstrated, a wide range of interventions is being used to address prevention, early diagnosis and treatment, supporting delivery of both national and local strategies. The local strategy, 'Improving Outcomes in Cancer - A Strategy for Lincolnshire', should be the focus for taking forward the cancer agenda in the county.

There should be particular emphasis on:

- continuing to commission and provide services that tackle lifestyle risk factors for cancer, particularly smoking,
- continuing to develop ways of improving the uptake of the cancer screening programmes,
- continuing to work with health professionals and the public to diagnose cancer in its early stages, and
- NHS commissioners continuing to work with providers of healthcare to enable people to receive the best outcomes in cancer treatment and care.



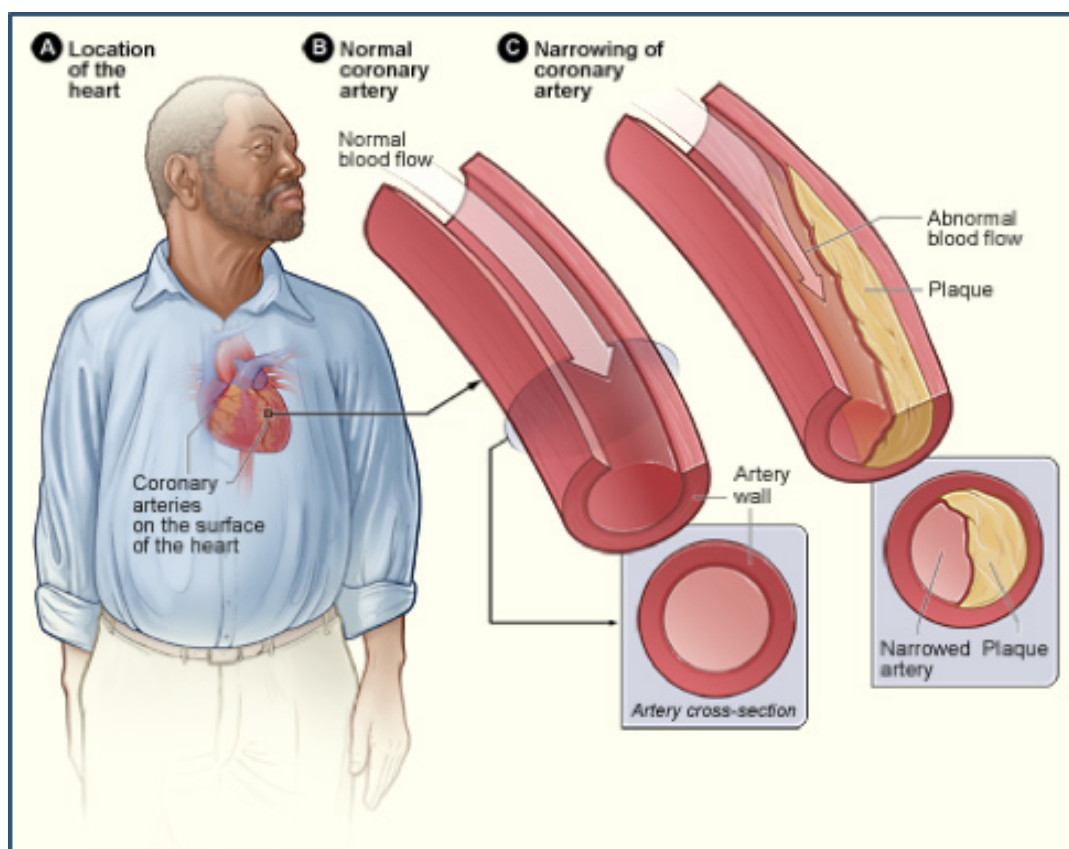


# Circulatory Disease

## The Condition

The two main circulatory diseases affecting the UK population are coronary heart disease and stroke, both of which are major causes of premature death in the UK. Other circulatory diseases are high blood pressure, kidney disease, peripheral circulation conditions, vasculitis, heart defects and arrhythmias. This chapter focusses primarily on coronary heart disease and stroke as major contributors to premature mortality in the country.

Figure 3.1: Narrowing of the coronary artery



Source: US National Institutes of Health; Heart, Lung and Blood Institute

In time, the arteries may become so narrow that they cannot deliver enough oxygen-rich blood to the heart, resulting in pain and discomfort. This is referred to as 'angina'.

If a piece of atheroma breaks off, it may cause a blood clot to occur somewhere in the body's blood vessels. If the blood clot blocks off the coronary artery supplying the heart, this is known as a 'heart attack', and may result in death or the heart becoming permanently damaged.

Those living with CHD may experience a number of different symptoms, including swollen ankles or feet, problems with sleeping, fatigue (tiredness) and a lack of energy. They may find

## Coronary heart disease

Coronary heart disease (CHD) occurs when the coronary arteries (the blood vessels that supply your heart muscle with oxygen-rich blood) become narrowed, due to a gradual build-up of fatty material. The fatty material is called 'atheroma' or 'plaque' and the condition is called 'atherosclerosis'.

themselves getting short of breath when undertaking routine activities, such as climbing the stairs or walking up a hill. Others may experience chest pain or discomfort. All these symptoms can cause fear and anxiety, lead to stress and encourage sufferers to limit their activities and stop doing the things that they enjoy.

## Stroke

A stroke is a serious, life-threatening medical condition that occurs when the blood supply to part of the brain is cut off, causing permanent damage. If the supply of blood is restricted or stopped, brain cells begin to die, which may lead to injury,

disability or even death. There are two main types of stroke:

- ischaemic: where the blood supply is stopped due to a blood clot (this accounts for 85% of all cases), and
- haemorrhagic: where a weakened blood vessel supplying the brain bursts

There is also a related condition, known as a 'transient ischaemic attack' (TIA), where the supply of blood to the brain is temporarily interrupted, causing a 'mini-stroke'. These frequently last for less than 30 minutes but can last for as long as several hours. TIAs are often a warning sign that there is a risk of having a full stroke in the near future.

The injury to the brain caused by a stroke can lead to widespread and long-lasting problems. These may include cognitive (understanding) and communication problems, depression and emotional problems, fatigue and physical difficulties (including problems with mobility, balance and incontinence), and visual problems.

Although some people may recover quite quickly, many will have to live with the after effects of the stroke. A substantial proportion may be dependent on others to help them with daily living, and require support to regain as much independence as possible.<sup>22</sup>

Although there is a falling trend for premature deaths from circulatory diseases, particularly CHD, they still represent a considerable impact on families, and place a burden on health and social care services within the county. They also contribute heavily to the overall number of deaths that are considered avoidable.

Furthermore, there is a distinct possibility that this falling trend will be reversed as a result of rising levels of obesity, reducing levels of physical activity and an ageing population.

Key to reducing circulatory disease and its effects is the early identification of its risk factors, and providing support, advice and interventions to those identified with elevated risk. The aim is to lower their risk levels and improve circulatory fitness through lifestyle changes, such as increasing physical activity, stopping smoking, reducing excess weight and eating a healthy diet.

CHD is also known to be an important indicator of inequalities. Those who are not well educated, have a low income, and are employed in blue collar occupations have the highest CHD rates. Risk factors linked to CHD, such as poor lifestyle choices, poor housing and limited access to primary healthcare services are often more prevalent in areas of high deprivation.

## Causes and Risk Factors

A number of common risk factors are recognised as increasing the risk of individuals developing atherosclerosis and,

therefore, CHD.<sup>5</sup> The same risk factors apply to the likelihood of having a stroke. They are:

- high blood pressure,
- high blood cholesterol,
- diabetes,
- lack of physical activity,
- obesity,
- ethnicity, and
- a family history of CHD or stroke.

The risk of CHD increases with age for both men and women, and whilst it generally affects more men, the chances of developing the condition are similar for both men and women from the age of 50 onwards.

There is a social gradient in the prevalence of CHD, with more deprived areas experiencing higher levels than less deprived areas. In 2011, in the most deprived areas of England and Wales, 11% of men and 5% of women were diagnosed with CHD, compared to 5% of men and 2% of women in the least deprived areas.<sup>23</sup>

Individuals may modify or reduce many of the risk factors for CHD and stroke by making lifestyle/behaviour changes, such as not smoking, taking physical exercise, and eating a healthy diet. Consequently, CHD and stroke are largely preventable diseases. It is known that 80% of strokes are attributable to risk factors that are lifestyle choices.<sup>24</sup> For example, you are twice as likely to experience a stroke if you are a smoker. The good news is that stopping smoking for five years reduces your risk to the same level as that for a non-smoker.<sup>25</sup>

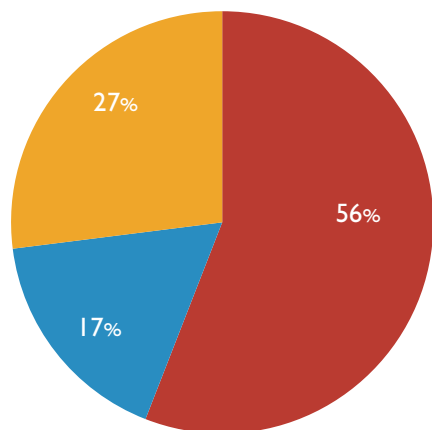
## Facts and Figures

In 2011, almost 160,000 people in the UK died from circulatory diseases. Of these deaths, 74,000 were caused by CHD, the UK's leading cause of death.<sup>24</sup> Nationally, about 1 in 6 men and 1 in 10 women die from CHD each year. Many of these deaths are of people under 75 years of age, and may have been prevented, as the causes are considered 'amenable to healthcare interventions'.<sup>24</sup>





Figure 3.2: Mortality from circulatory disease by type in under 75 year olds, in Lincolnshire, 2010/2012



- Coronary heart disease
- Stroke
- Other circulatory diseases

Source: Primary Care Mortality Database, Health and Social Care Information Centre

Circulatory conditions are the second largest group of diseases (after cancers) responsible for premature mortality in Lincolnshire. In the three-year period from 2010 to 2012, 1,700 people who were under the age of 75 years died from circulatory disease, this being nearly a quarter (23.1%) of all

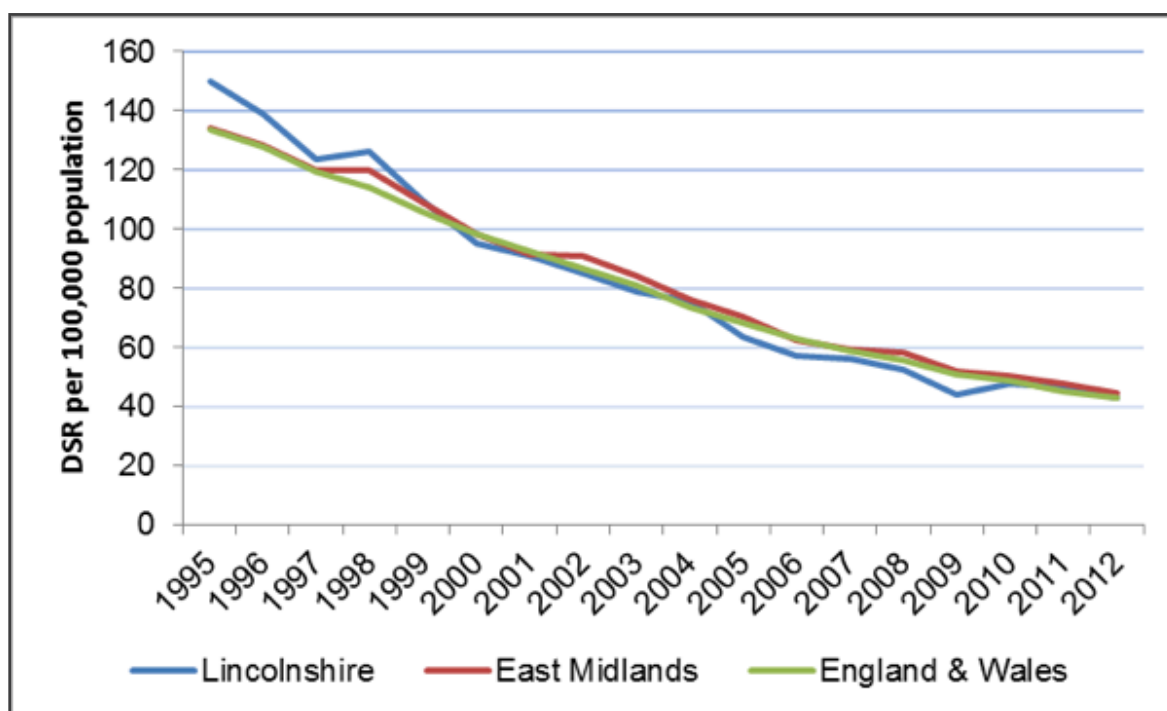
deaths for this age group in the county.

CHD was the main circulatory disease responsible for these deaths, accounting for 953, which is more than from any other individual cause, including specific cancers (figure 3.2).

Stroke is a major health problem in the UK. In 2012/13, 75,000 people were admitted to hospital in England as a result of a new or recurrent stroke, and a further 27,500 people were admitted with a TIA.<sup>26</sup> In Lincolnshire in 2013/14, 2.2% of the population (16,629 people), had had, or were living with, the condition. This is higher than the national figure of 1.7% of the population.<sup>9</sup> Stroke is also among the leading causes of premature mortality among Lincolnshire residents, resulting in 291 deaths over the three-year period from 2010 to 2012.

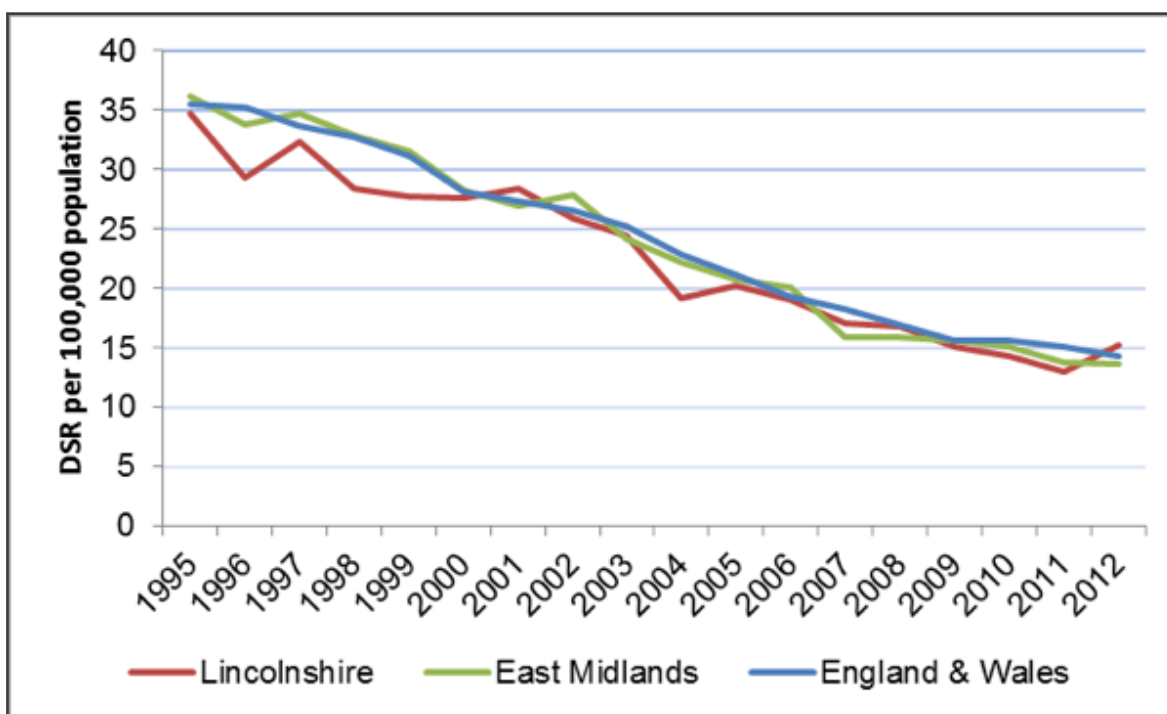
In Lincolnshire, there has been a reduction in premature deaths from CHD and stroke, as measured by directly standardised rates. For CHD there was a 71.4% reduction between 1995 and 2012 (figure 3.3), and for stroke a reduction of 56.2% over the same period (figure 3.4). This suggests that these conditions are being better diagnosed and managed, and that risk factors have been reduced. Addressing risk factors, such as smoking and high blood pressure and cholesterol levels, is thought to have contributed around half of the reduction (between 42% and 58%), the remainder being attributable to improved care during acute cardiac and stroke episodes, and the management of those with known disease.<sup>27 28</sup> Reductions in mortality would have been even greater but for rising levels of obesity and diabetes in the population.

Figure 3.3: Mortality from coronary heart disease, directly age standardised per 100,000 population aged under 75 years, 1995-2012



Source: Primary Care Mortality Database, Health and Social Care Information Centre

Figure 3.4: Mortality from stroke, directly age standardised per 100,000 population aged under 75 years, 1995-2012



Source: Primary Care Mortality Database, Health and Social Care Information Centre

The number of hospital admissions in the county attributable to CHD decreased by 7.6% between 2009/10 and 2010/11, from 22 admissions per 10,000 population to 20.5 admissions per 10,000.<sup>29</sup>

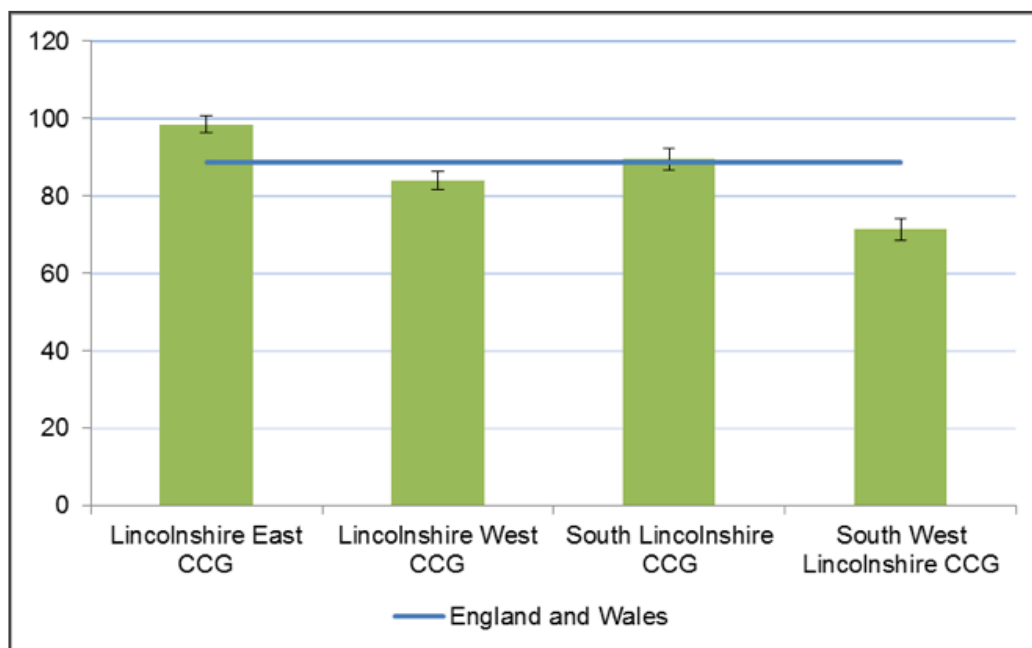
Despite these reductions, circulatory diseases remain responsible for a considerable number of potential years of life lost (PYLL) in Lincolnshire. Based on data from the three-year period from 2010 to 2012, circulatory diseases were responsible for the loss of 91 potential years of life per 10,000 residents in Lincolnshire (around 6,370 total years of life lost prematurely over the three years).

CHD and stroke account for 48 PYLL and 16 PYLL per 10,000 residents respectively (being approximately 3,360 years in total lost to CHD, and 1,120 years lost to stroke in Lincolnshire).

Across Lincolnshire there are differences in the amount of

years of life lost due to circulatory diseases. In Lincolnshire East CCG, an average of nearly 100 PYLL were lost per 10,000 population each year due to circulatory diseases in the period 2010 to 2012. This was above the national rate and higher than any other CCG in Lincolnshire. South Lincolnshire CCG had a rate similar to the national level and higher than Lincolnshire West CCG and South West Lincolnshire CCG. High mortality from circulatory disease is consistent with higher rates of excess weight in the east of the county, an important risk factor in the disease. The local authority district area of East Lindsey also has higher than average smoking prevalence, another important risk factor, and makes up a major part of this CCG. Lifestyle-related risk factors, such as smoking and obesity, have a strong correlation with deprivation, and analysis at lower levels shows that premature mortality from circulatory diseases is correlated with deprivation. It is therefore not surprising that less deprived areas of the county, such as South West Lincolnshire, have the lowest rates of PYLL due to circulatory diseases.

Figure 3.5: PYLL from circulatory diseases, directly standardised rate per 10,000 population in Lincolnshire, 2010/12



Source: Primary Care Mortality Database, Health and Social Care Information Centre

## Policy and Strategy

The National Stroke Strategy (NSS) was launched in December 2007, providing clear direction for the development of stroke services in England over a 10 year period. The NSS covers the whole stroke pathway, with a strong emphasis on primary prevention of stroke through healthy living. Once a stroke has been diagnosed, the NSS is clear that a rapid and effective transfer, assessment and treatment should be given, including quick access to diagnostic tests and, if required, referral to a specialist 24/7 stroke unit.

An extensive Community Stroke Rehabilitation Service provides a countywide service to support stroke survivors

to leave hospital in a timely manner. Clinical Commissioning Groups commission the Family and Care Support Services (FCSS) through the Stroke Association, with a remit to provide high quality information, emotional support and practical advice in the aftermath of a stroke. FCSS currently runs four support groups across Lincolnshire, based in Boston, Spalding, Grantham and Lincoln. Lincolnshire County Council commissions FCSS to undertake a care assessment for carers. This may include identifying their physical and mental health needs, promoting emergency planning and signposting to other services, if appropriate.

The National Service Framework (NSF) for CHD was launched in 2000 as a 10 year strategy, with the aim of



achieving a 40% reduction in CHD and stroke related deaths by March 2010. The target was met five years ahead of schedule, but the work is continuing through the Cardiac Network, which seeks to improve cardiac rehabilitation, spread good practice, and recruit and train Heart Failure Nurses to support those in the community living with the effects of heart failure.

Core government targets, such as those around reducing the prevalence of smoking, guidance on physical activity for fitness and health, initiatives such as 'Change 4 Life' and the NHS Health Checks programme all directly focus on reducing circulatory risk factors.

At the local level, theme 3 of the Joint Health and Wellbeing Strategy ('Delivering high quality systematic care for major causes of ill health and disability') also addresses the challenge of CHD. The JHWS has identified the need to reduce mortality from CHD, and to prioritise improving treatments for patients following a heart attack. Multiple actions are being taken and include:

- monitoring the performance of each general practice in the county against relevant indicators within the Quality and Outcomes Framework, and working with CCGs to make improvements, and
- ensuring, through working with CCGs, that effective, evidence-based preventive measures are commissioned to reduce the prevalence of the major causes of ill health, and minimise the impact of long term conditions on people's mental health (in relation to theme 1 of the JHWS, 'Promoting Healthier Lifestyles').

The Lincolnshire Tobacco Control Strategy also directly addresses smoking-related risks factors for circulatory diseases.

## How is Premature Mortality from Circulatory Diseases Being Addressed?

There is a strong focus on health promotion and addressing the lifestyles/behaviours that contribute to increasing the risk of circulatory disease. It is estimated that, if the adult population participated in physical activity to World Health Organisation suggested levels (2.5 hours of moderate activity or 75 minutes of vigorous activity per week), PYLL due to coronary heart disease in Lincolnshire would drop from 48 to 45 years per 10,000 residents (a reduction of 6%)<sup>30</sup>. Increasing levels of activity would also have a positive impact on other areas of ill health, resulting in a 9% reduction on all PYLL.

In order to facilitate and encourage the population of Lincolnshire to practice healthier lifestyles, a range of services and programmes are in place, as detailed in appendix 1. Many of these are designed to directly reduce mortality from circulatory diseases, and include:

- Phoenix Stop Smoking Service and the Lincolnshire Smokefree Homes programme,

- exercise referral,
- Health Walks,
- Vitality,
- Fit Kids,
- Health Trainers,
- Community Food Programmes,
- Healthy Schools,
- Community Health Champions, and
- Making Every Contact Count.

Over the last five years, a significant amount of work has also taken place to improve stroke services for the people of Lincolnshire. Two acute stroke units are currently located at Lincoln County Hospital and Boston Pilgrim Hospital, with both units providing acute stroke thrombolysis to reduce the longer term impacts of stroke.

The Lincolnshire Smokefree Homes programme, established in 2004, targets the most deprived areas of the county. In addition to the services that are available to help smokers themselves, this programme works through Children's Centres, focussing on those who are at most risk because they live in a smoking household.

## Next Steps

Many of the risk factors for circulatory disease are largely modifiable, being linked to lifestyle choices. Work will continue in order to lessen the burden of circulatory disease, and reduce premature deaths, through health improvement measures and by raising awareness of health issues. This will enable individuals to manage their own health more effectively.

Partnership working with local organisations will also continue to deliver health information lifestyle messages to specific sections of the population.

As circulatory diseases are an indicator of health inequalities, work will also continue to focus on, and support, those occupying the lower socioeconomic brackets, who are more likely to be at risk of, and suffer the consequences of, such diseases.

Work will be undertaken with the Phoenix Stop Smoking Service to better understand why smokers choose not to use the service, and opt for less effective forms of smoking cessation. This intelligence could help to target and support smokers in Lincolnshire more effectively.

Focussing on health improvement messages and delivering services that support individuals to make healthier lifestyle choices should reduce the risk of circulatory diseases for the Lincolnshire population, and further reduce premature deaths from these conditions.







# Suicide and Mortality from undetermined Causes

## Background

The World Health Organisation (WHO) describes suicide as, “the act of deliberately killing oneself”. When the outcome of an inquest into a suspected suicide is ruled as ‘death by undetermined cause’, this means the evidence is not conclusive enough to rule it as a suicide or otherwise. For the purposes of this chapter, we look at both of these outcomes together, which is standard practice.

The likelihood of a person taking their own life depends on many factors. For many people, it is a combination of problems which are important rather than one single issue or cause. Major risk factors include being male, living alone, being unemployed, alcohol and drug misuse, and difficulties with mental health. In drawing conclusions from local analysis, it is important to be aware that it can be difficult to gather consistent background information across all cases. Therefore analysis provides a helpful indication of the general picture but cannot be assumed to be an absolute portrayal of the situation locally.

It must also be recognised that all individuals are impacted by their different circumstances in different ways and in the vast majority of cases people will find ways of coping with traumatic experiences or difficult circumstances.

This chapter looks at the picture of suicide and death by undetermined means in Lincolnshire. It is important to recognise that the only person who knows the real story about why they decide to take their own life is the individual themselves, so cases are examined individually and conclusions are drawn from the intelligence gained.

Every death by suicide is a tragic loss of life, and the impact of that event is widespread. It is known that, when a person dies in this manner, the emotional cost to the people affected by the death is very high. A study published in 2011 by Kings College London<sup>31</sup> calculated the total economic cost of suicide in various parts of the country. It looked at the various direct costs, such as emergency services, funeral and court costs; at the indirect costs on society, such as time lost from work and unproductive hours; and at the human costs, including lost years of disability-free life, and the pain and grief experienced by family members. The study determined that each suicide cost nearly one and a half million pounds, taking the above factors into consideration. This shows that, not only is suicide a tragic human loss to community and society, but an economic one as well.

## Causes and Risk Factors

Key, and emerging, risk factors for suicide may include:

- having financial difficulties,
- being of certain occupational groups,
- having mental health problems,
- having long-term physical health conditions,
- having a history of self-harm,
- alcohol and drug misuse,
- suffering difficulties during childhood (adverse or abusive experiences),
- having special educational needs,
- having had contact with the criminal justice system, and
- suffering bereavement and relationship breakdown.

Some factors, such as being unemployed or having debts, can put pressure on individuals and families that they may find difficult to deal with. Research in Lincolnshire over recent years has shown that around 7% of cases have some indication of financial difficulties within their records.

At a national level, men who work in construction and in plant and machine operation are at the highest risk of suicide, and women who work in health, particularly doctors and nurses, are also at high risk. At the county level, trends are more difficult to identify. However, the highest risk group for men is most described as being ‘elementary’ occupations, being people who work in low-skilled roles including basic sales and service positions, and basic agricultural and construction labour, amongst many others. For women, there is no clear occupational trend locally to indicate any difference from the national pattern of risk. Lincolnshire is a county with large numbers of armed forces personnel, both serving and veterans, and data from recent years suggests that around 11% of cases had a record of previous military history, amongst other contributing factors.

Mental Health is a state of wellbeing in which the individual realises his/her own abilities, can cope with normal stresses of life, can work meaningfully and fruitfully, and is able to make a contribution to his/her communities.<sup>32</sup> It is reasonable to assume that some people who take their own lives may be having difficulties with their mental health. Nationally, one in four people will have a problem with their mental health each year.<sup>33</sup> In Lincolnshire, investigation has shown that over recent years more than half (58%) of those who died by suicide or undetermined causes had previously had contact with mental



health services. Just over half of all cases had a recorded history of depression.

Nationally, it is known that being diagnosed with some health conditions, such as cancer, heart disease and chronic obstructive pulmonary disease (COPD), can contribute to a higher risk of suicide. From recent research in Lincolnshire, just over 4 in every ten cases included an indication of physical ill health, including back injuries and pain, osteoarthritis, epilepsy, asthma and cancer.

It is estimated that over 17,000 people across Lincolnshire are classified as dependent drinkers, with a further 25,000 people drinking at harmful or higher risk levels. Over 106,000 people are drinking at a level that is an increasing risk to their health.<sup>34</sup> Over the most recent years for which research is available, just under a third of suicide records (29%) indicated a history with alcohol. One in five cases indicated a history of drug misuse.

Experiences in childhood can affect how we live our lives as an adult. The national suicide prevention strategy<sup>35</sup> states that adverse and abusive experiences in childhood are associated with an increased risk in suicidal behaviour. Although specific data for an indication of childhood experience alone is not available, investigation of Lincolnshire data suggests that just under 13% of cases had a record of some history of abuse. Such experiences could include suffering childhood abuse or neglect, but also include those involved in abusive relationships, suffering domestic abuse or being bullied in the workplace.

Risk is also thought to increase in relation to having special educational needs, including problems with literacy, mild learning disability, autism or attention deficit hyperactivity disorder (ADHD). All of these have been identified in recorded suicide cases in the county, although numbers are low.

The national strategy identified that people in contact with the criminal justice system are a high-risk group for suicide. In Lincolnshire over recent years, just over one in seven of those who died by suicide had a recorded history of contact with

the criminal justice system, appearing to reflect this risk. It is difficult to estimate the proportion of people in the general population who have had similarly defined historic contact with the criminal justice system, and therefore it is difficult to understand how big a role this plays. However, a Ministry of Justice report<sup>36</sup> has estimated that around 15% of those aged between 10 and 52 years in England and Wales have had at least one conviction for a standard list offence, that is, any offence from which you can be convicted through the courts and which will form part of a criminal record. Therefore the proportion of suicides in Lincolnshire which recorded an indication of contact with the criminal justice system appear to be at a similar level to the rate of contact in the general population. Of those committing suicide in Lincolnshire who had an indication of contact, most also had a history of mental health concerns and half had a history of problems with drugs or alcohol.

Relationship breakdown and bereavement are also known risk factors. Around a third of suicide records in Lincolnshire referred to bereavement, relationship breakdown or relationship difficulties, although other factors may also have been present.

## Facts and Figures

In Lincolnshire, between 2010 and 2012 there were 178 deaths from suicide or undetermined causes to those under 75 years (15 years+), 43 in females and 135 in males. The mortality rate, both overall and in males and females, is higher than the England and Wales average, as seen in figure 4.1, although the county rate in females has fallen slightly in the last year.

These deaths accounted for 34.8 potential years of life lost (PYLL) per 10,000 population (directly age standardised rate), 14.1 for females and 56.2 for males. At these levels, death from suicide or undetermined causes is the third biggest cause of years of life lost in Lincolnshire, after cancers and circulatory conditions.

Figure 4.1: Mortality rate from suicide and undetermined causes, directly age standardised per 100,000 population aged 15-74 years in Lincolnshire, 2010/12

	All Persons	Male	Female
England and Wales	10.5	16.3	4.8
Lincolnshire	11.4	17.8	5.2
Boston	9.1	15.1	3.1
East Lindsey	13.1	19.6	6.9
City of Lincoln	16.7	23.8	9.8
North Kesteven	11.8	18.6	5.4
South Holland	8.5	14.2	3.0
South Kesteven	8.9	15.3	2.9
West Lindsey	10.6	16.3	5.5

Source: Primary Care Mortality Database, Health and Social Care Information Centre



Lincolnshire's higher than national average rate can be seen in the table, as can the high rate in the City of Lincoln, which constitutes much, but not all, of the difference. At lower geographic levels, premature mortality from suicide or undetermined causes is correlated with deprivation, when considering rates by quintile of deprivation rank in the county. Due to the low numbers and the nature of the issue, it would not be helpful to attempt to further identify individual locations for targeting.

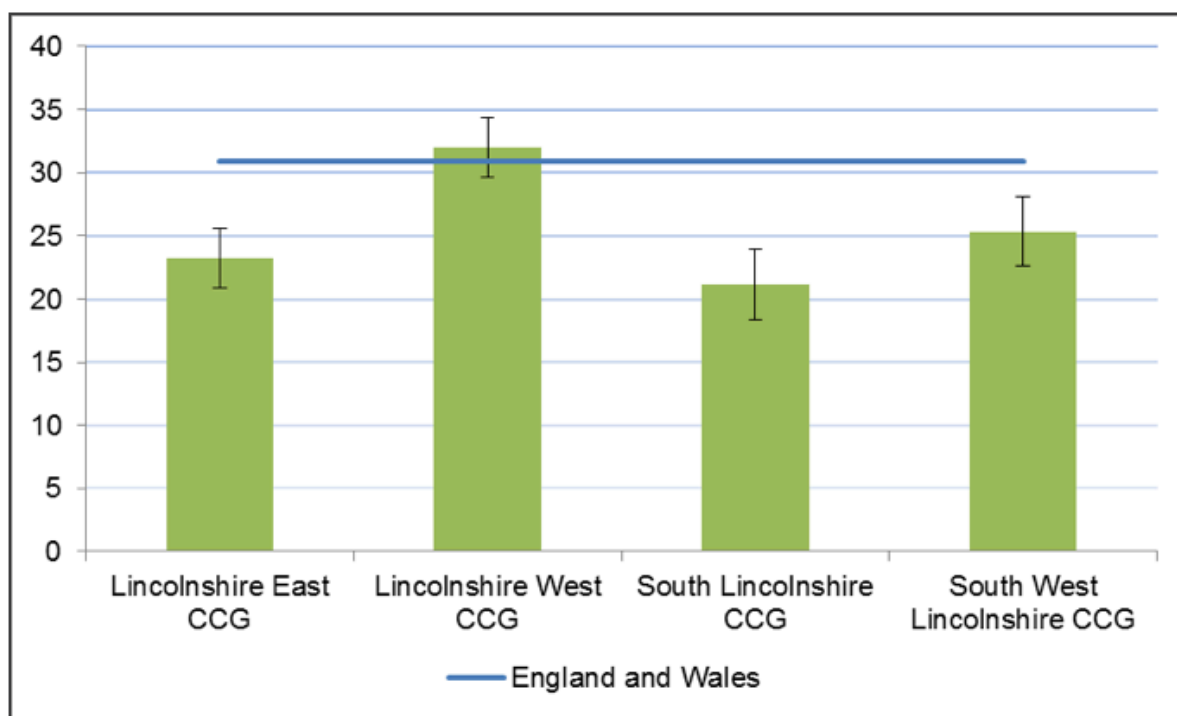
Nationally, the majority of suicides continue to occur in adult males, accounting for approximately three-quarters of all suicides. In Lincolnshire, the ratio is similar, although year on year it tends to fluctuate around this figure, due to the small numbers involved. Over the last two years of data, around 80% of such deaths were in males.

In terms of age, over the last five years the 40 to 45 year age group has seen the highest number, and rate per population, of deaths from suicide or undetermined causes for males. For females, the highest figures and rate were in the 55 to 59 year age group.

The national strategy has identified a need for consideration of ethnic minorities as a higher risk group. From the information available locally, there is no clear picture of this in Lincolnshire.

At the CCG level, PYLL from suicide or undetermined injury is below the national rate in three of Lincolnshire's CCGs, and in Lincolnshire West CCG it is comparable to the national level. Rates of mortality from these causes are known to be higher in the City of Lincoln (figure 4.1), which forms part of Lincolnshire West CCG.

Figure 4.2: PYLL from suicide and undetermined causes, directly standardised rate per 10,000 population in Lincolnshire, 2010/12



Source: Primary Care Mortality Database, Health and Social Care Information Centre

## Policy and Strategy

In September 2012, HM Government published 'Preventing suicide in England: A cross-government outcomes strategy to save lives',<sup>35</sup> which aimed to reduce the suicide rates in England, and improve support for those affected by suicide. The strategy sets out key areas for action, states what government departments are going to do to contribute, and brings together knowledge about groups at higher risk, effective interventions and resources to support local action. This document defined the responsibility of local government organisations to do something about suicide, to recognise its devastating effects, and to work with other organisations to prevent suicide and the tragic impact it has, wherever possible.

Public Health England have recently released 'Guidance for developing a local suicide prevention action plan: Information for public health staff in local authorities',<sup>37</sup> which outlines guidance for local authorities on the formation and delivery of action plans for suicide prevention. Adhering to this guidance is key to understanding how we can contribute to the national approach to prevention, and to ensure we can learn from the best practices of others.

The World Health Organisation (WHO) has published guidance for suicide prevention, 'Preventing suicide: A Global Imperative',<sup>38</sup> with the aim of helping all countries to reduce suicide rates by 10%, as a minimum. This report also stresses the importance of raising awareness of suicide prevention as a public health issue, and states that raising the profile of suicide

prevention must be given a greater priority in all organisations.

Locally, suicide and death by undetermined causes are reported on each year by Lincolnshire County Council, helping to inform the services provided for suicide prevention about how to more effectively target their audiences.

## How is Premature Mortality from Suicide Being Addressed?

The Lincolnshire Coroner Service carries out an inquest into an individual death when triggered through a variety of instances, including death in suspicious circumstances and suspected death by suicide. The inquest investigates the deceased's circumstances and any events which may have influenced their death. Coroners have a responsibility to help reduce death by suicide and undetermined means where they can. They share appropriate intelligence to help target interventions to prevent suicide, and to inform commissioning of prevention and intervention services. They also alert the Local Authority, including Lincolnshire Public Health, should they identify emerging or changing patterns of concern, such as possible clusters of incidents or methods of suicide, so that attention can be focussed on these areas of concern. Where an inquest shows that something specific could be done to prevent further deaths, the coroner reports this to the attention of any organisation (or person) that may have the power to take action, and this organisation must then provide a written response on the action that will be taken.



In Lincolnshire, both multiagency work and commissioned programmes exist to tackle suicide. Two services which tackle stigma around suicide, and raise awareness of suicide prevention, are commissioned through Lincolnshire County Council, these are ASIST and SafeTALK.

Applied Suicide Intervention Skills Training (ASIST) is a two-day intervention skills course, delivered through Lincolnshire Partnership NHS Foundation Trust (LPFT). It helps delegates learn how to spot the signs of someone who is considering suicide, and how to talk to them about it, as well as where to go for help. It is a practical interactive course, which needs no prior experience or qualifications. ASIST is important for front-line staff and volunteers to help them recognise when residents with whom they come into contact every day may be under emotional distress, and know how to help them.

SafeTALK (suicide awareness for everyone) is a three-hour training session, with the objective of raising awareness of suicide and reducing the stigma associated with it. The aim of this course is to get more people talking about suicide and its prevention in an open and non-judgemental way; and to encourage those who have suicidal thoughts to come forward and find help.

In 2014, over 300 people attended ASIST training and more than 130 people received training on SafeTALK across Lincolnshire, with more sessions planned for 2015.

The transfer of Public Health from the NHS to Local Authorities has made access to some data from providers more difficult, but has opened up other opportunities to gain important intelligence. Work has been undertaken to improve appropriate data sharing, in order to enable patterns and trends in suicide across the county to be better understood. In this way, interventions and support can be provided in the best ways to those residents most at risk.

The multi-agency partnership, 'Choosing life', brings together people from organisations all over the county, to develop mechanisms and initiatives to help address the issue.

Whilst these programmes directly address suicide prevention, there is also much activity that is carried out around managing the risk factors associated with suicide. Depression, anxiety and other low-level mental health disorders feature heavily in suicides in Lincolnshire, and these are the focus of many programmes. Many of these are detailed in appendix I. They include the Health Trainer service, GP exercise referral, Increasing Access to Psychological Therapies (IAPT), Mental Health First Aid and targeted pharmacy campaigns amongst many others. These more population-based approaches to improving support for emotional well-being have enabled a more widespread impact across the county, and addressed some of the known risk factors for suicide.

## Next Steps

Evidence suggests that there is still more that can be done to prevent unnecessary deaths through suicide. It is clear that organisations must work together in preventing suicide, and that it is everyone's responsibility. Many organisations, groups and businesses contribute to the emotional well-being of individuals, and can help to prevent suicide and death by undetermined causes. Moreover, some work needs to be further shared, so that all relevant organisations know what is going on across the county and how to direct people to the right places, as well as being aware of any gaps in provision.

As previously noted, suicide and death by undetermined causes are reported on each year by Lincolnshire County Council, and it is important that this work continues to inform suicide prevention plans. The recently released 'Suicide Prevention: Developing a local action plan'<sup>37</sup> from Public Health England will help to provide a framework for delivery, and an indication of how Lincolnshire may contribute to the national approach to prevention, as well as ensuring that we are able to learn from the best practices of others.



# Respiratory Disease

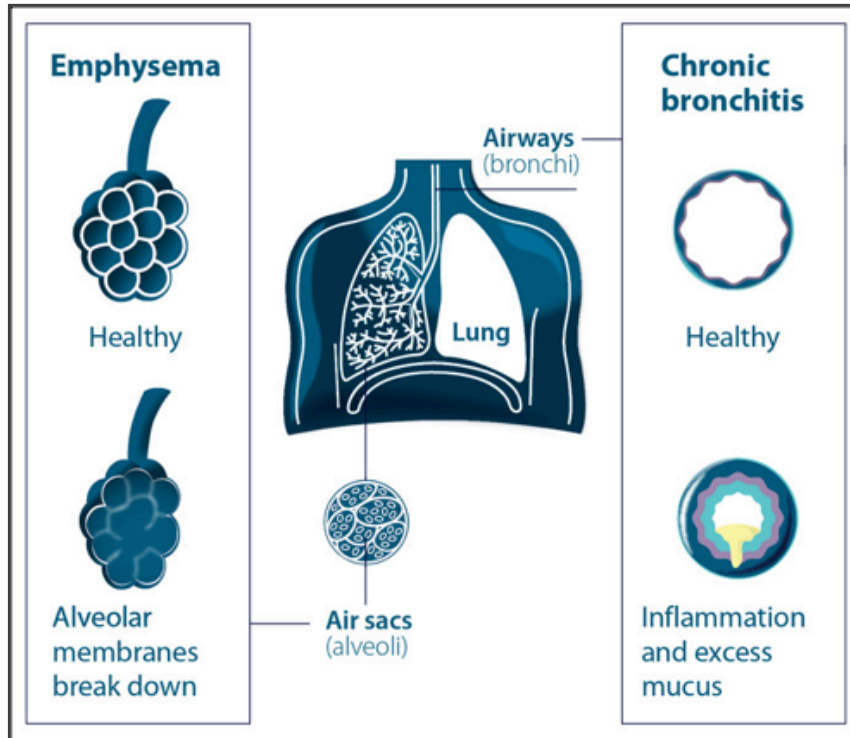
## The Condition

The main causes of premature mortality in relation to respiratory diseases are chronic obstructive pulmonary disease (COPD) and pneumonia. Between 2010 and 2012, COPD and pneumonia accounted for 21 potential years of life lost (PYLL) per 10,000 people in Lincolnshire.

## Chronic Obstructive Pulmonary Disease

COPD describes a collection of diseases that affect the lungs. These include chronic bronchitis, emphysema and asthma. Emphysema affects the alveoli (air sacs), and chronic bronchitis affects the bronchi (airways). Some people with COPD will have one of these conditions, whilst others will have more than one.

Figure 5.1: Diagram showing how the lungs are affected by COPD



Source: British Lung Foundation<sup>39</sup>

People with COPD have difficulty breathing, and the constriction of the airflow, narrowing of airways and loss of lung elasticity give rise to increased breathlessness, a persistent cough and more frequent chest infections.

Many people with COPD are on substantial medication. They are more likely to take sick leave from work than those without COPD, and are more likely to be admitted to hospital and to retire prematurely because of ill health.

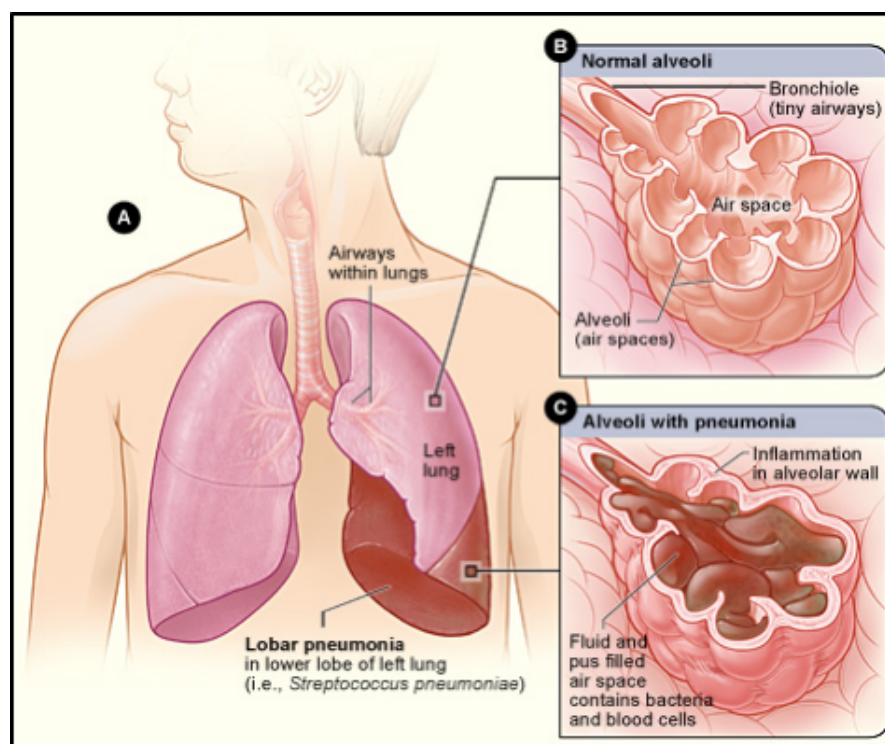
Individuals with more severe COPD can find everyday activities very difficult. They report being very anxious about becoming breathless, and consequently limiting their activity in order to avoid becoming breathless. As a result, they become less fit, and so become breathless after minimal activity. This is referred to as deconditioning.<sup>40</sup> Many people with COPD report poor quality of life.<sup>41</sup>

## Pneumonia

Pneumonia is an inflammation of the tissue in one or both lungs, causing a build-up of fluid in the air sacs clustered at the end of the smallest branches of the breathing tubes in the lungs (figure 5.2).



Figure 5.2: Diagram showing how the lungs and airways are affected by pneumonia



Source: US National Institutes of Health; Heart, Lung and Blood Institute

People with pneumonia have symptoms that can be similar to those of other chest infections. Common symptoms of pneumonia include coughing, difficulty breathing (for example, rapid and shallow breathing, and breathlessness even when resting) and chest pain, which is worse upon breathing or coughing.

Those with mild cases of pneumonia can usually be treated with antibiotics, rest and fluids. While some symptoms may improve quite quickly, a cough is likely to persist for two or three weeks after completing a course of antibiotics, and fatigue may remain for longer. More severe cases may need hospitalisation, where treatment includes antibiotics and fluids given intravenously through a drip, and/or oxygen to help with breathing.

### Causes and Risk Factors

COPD usually develops because of long-term damage to the lungs from breathing in harmful substances, such as cigarette smoke or chemical fumes. The most common cause of COPD is smoking tobacco.<sup>42</sup> The likelihood of developing COPD increases with the amount someone smokes and the length of time they have been a smoker. More rarely, COPD is caused by fumes, dust and air pollution, or genetic disorders. Individuals, such as miners, who have experienced occupational exposure to harmful substances, and who are also smokers, are particularly likely to develop COPD.

In addition, COPD is strongly correlated with poverty, and thus is more likely to occur in areas of socio economic deprivation.

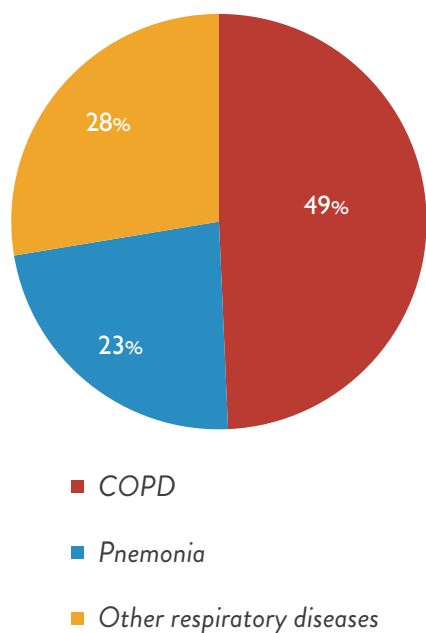
Pneumonia is most commonly caused by the pneumococcus bacteria. Other bacteria and viruses may cause pneumonia, but more rarely. The incubation period for pneumococcal disease is typically one to three days. Pneumococcal infection affects all age groups, but there is greater incidence in those over 64 years old and those under the age of 5 years.<sup>43</sup> Infection is by droplets from coughing or sneezing, or from direct contact with respiratory secretions of someone with the infection. Infection is more common in heavy drinkers, smokers and those who live in overcrowded conditions.<sup>44</sup> Predisposing conditions, such as COPD and influenza (flu) may also increase the risk of developing pneumonia.

### Facts and Figures

In the three-year period between 2010 and 2012 in Lincolnshire, there were 641 deaths of people aged under 75 from respiratory conditions (9.1% of all premature deaths). The estimated PYLL due to respiratory conditions was 34 years per 10,000 population in Lincolnshire. Mortality from respiratory conditions in Lincolnshire is above the national average, but the difference is not considered statistically significant. The east of the county has the highest rates of premature mortality from respiratory conditions in Lincolnshire according to NHS Outcomes Framework.

Nearly half of all deaths from respiratory conditions were due to COPD, as shown in figure 5.3.

Figure 5.3: Mortality from respiratory conditions by type in under 75 year olds, in Lincolnshire, 2010/12



Source: Primary Care Mortality Database, Health and Social Care Information Centre

COPD is a long-term condition, which becomes more common with increasing age. Most people with COPD are aged over 40. It is estimated that three million people in the UK<sup>45</sup> and more than 20,000 people in Lincolnshire, have COPD. COPD is more prevalent in men than women, although the prevalence in women is increasing.<sup>46</sup>

COPD is the fifth biggest killer in the UK, causing about 25,000 deaths each year. It is also a leading cause of premature mortality. In 2008, premature mortality from

COPD in the UK was almost twice as high as the European average.<sup>47</sup>

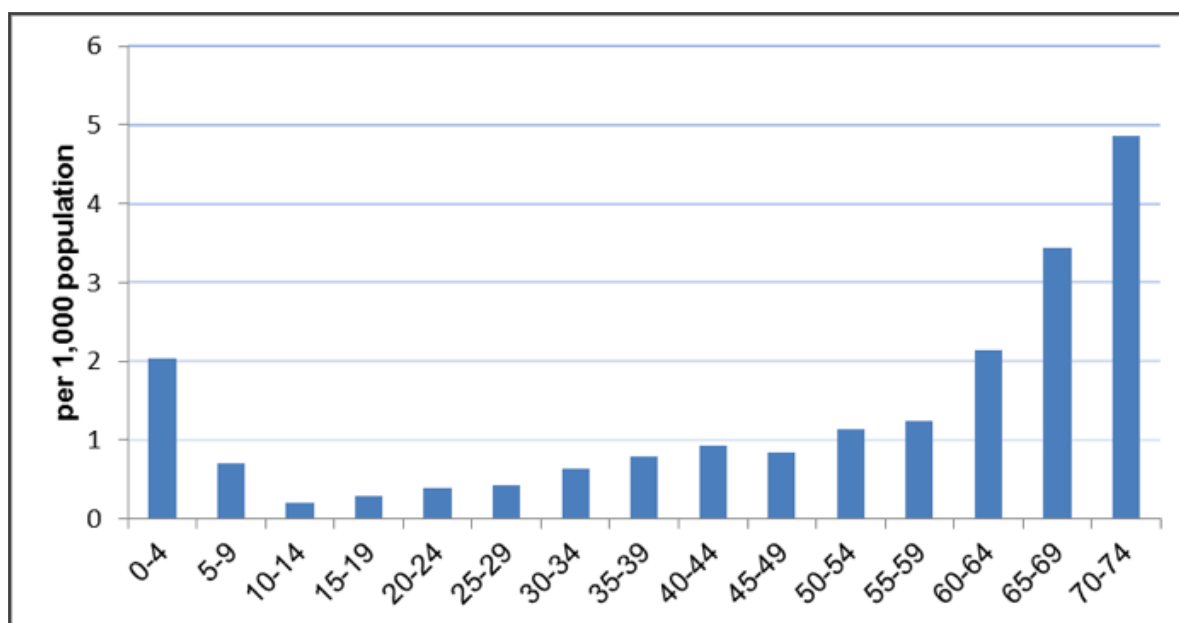
During the period 2010 to 2012, COPD was the underlying cause in 316 deaths in Lincolnshire. There are an estimated 12.1 PYLL to COPD each year per 10,000 residents, making it the eighth greatest cause of PYLL in Lincolnshire, being similar to the England average.

Pneumococcal infection affects all ages. The incidence rate in older children and young adults is 2 per 100,000, but there is a markedly greater incidence of 12 per 100,000 in individuals over 64 years old, and 7 per 100,000 in children aged under 5 years.<sup>48</sup> Pneumococcal infection is the main cause of community-acquired pneumonia. In the UK, the annual incidence of community acquired pneumonia is 5-11 cases per 1,000 for the adult population.<sup>49</sup>

Hospital admission is required for 20-40% of individuals who contract pneumonia, with 5-10% being admitted to a critical care unit.<sup>50</sup> In the UK, this results in approximately 83,000 hospital admissions each year.<sup>48</sup> There is a marked seasonal pattern in cases of pneumonia, with the greatest number of cases, and hospital admissions, occurring between December and January.

Hospital admissions due to pneumonia are far more common amongst infants and children under five years of age than for older children and adults of working age (figure 5.4). In Lincolnshire, between 2010 and 2012, there were 5,872 emergency hospital admissions as a result of pneumonia. Of these, 2,575 were for people aged under 75, being 43.8% of all such emergency admissions. On average, a person aged 75 years or older was 12 times more likely than a younger person to be admitted to hospital because of pneumonia.

Figure 5.4: Emergency hospital admissions due to pneumonia, age specific crude rates per 1,000 population in Lincolnshire, 2010/2012



Source: Hospital admissions data, Secondary User Service

In 2010-2012, 150 deaths in Lincolnshire, of people under 75 years of age, were attributed to pneumonia. The directly standardised mortality rate for Lincolnshire (2010-2012) of those under 75 years of age was 7.4 per 100,000 population. This was significantly lower than the directly standardised mortality rate for England and Wales, of 9.2 per 100,000. The rate for those aged 75 years and over was 42.1 per 10,000 for Lincolnshire, which was statistically lower than the rate for England and Wales (52.4 per 100,000 population).

In the three years from 2010 to 2012, the estimated PYLL due to pneumonia in Lincolnshire was 9.3 per 10,000 population. This was not statistically different from the East Midlands (7.48 per 10,000 population) or England and Wales (7.61 per 10,000 population).

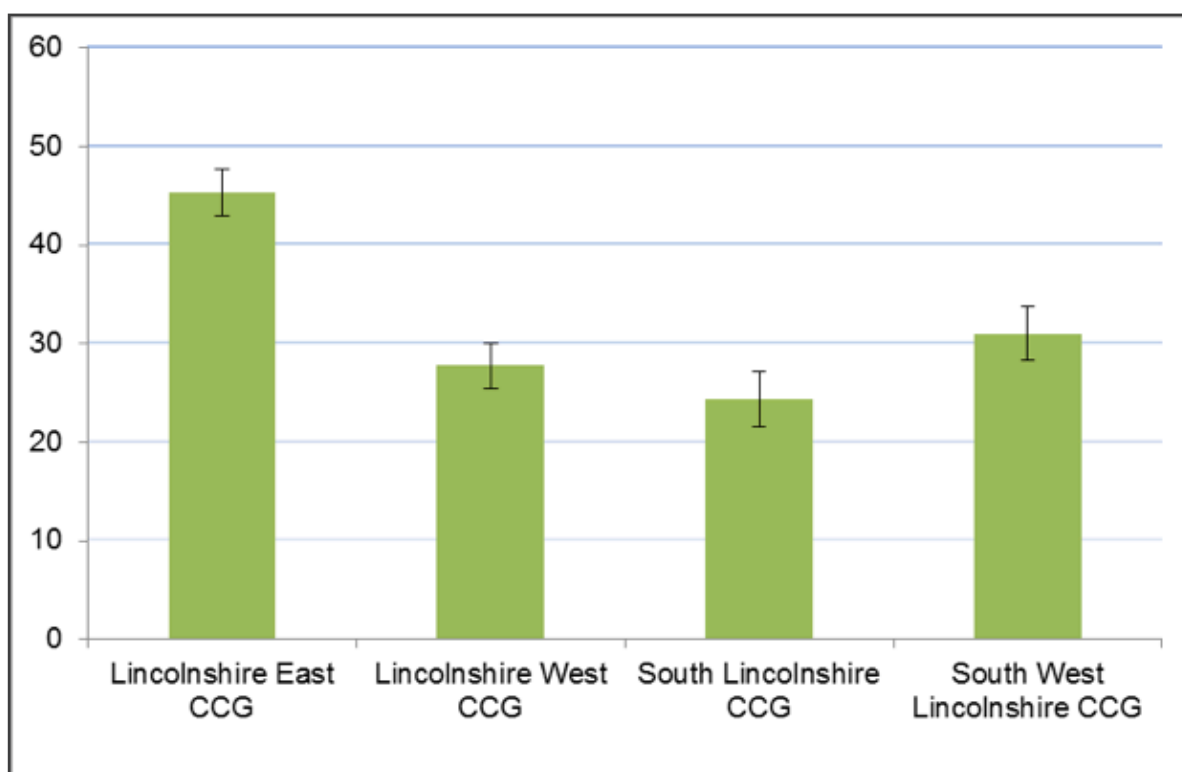
In Lincolnshire East CCG, there were 45 PYLL each year per 10,000 population through respiratory conditions, from 2010 to 2012. As in the case of circulatory disease, this is

significantly higher than any other CCG in the county. Again, smoking prevalence is a major risk factor in the disease, and this is higher in this area of the county. However, it is also possible that migration of those with existing problems to the east of the county could be a factor in the statistics. Analysis of age specific mortality rates show that in Lincolnshire East CCG, mortality from respiratory diseases was especially high in the 55-59 years age group, at over 1,000 per 100,000 population, more than twice as high as second highest results in the county (Lincolnshire West CCG). The mortality rate for people aged 60-69 years was also very high (again over 1,000 per 100,000 population), although the differences between CCGs in this age group were smaller. Analysis at lower geographic levels shows strong correlation between premature mortality from respiratory disease and deprivation levels in the county, and the pattern of mortality reflects this, particularly in the East and on the coast, but also in pockets of deprivation across Lincolnshire.





Figure 5.5: PYLL from respiratory diseases\*, directly standardised rate per 10,000 population in Lincolnshire, 2010/12



\*Please note that a national comparator is not readily available for this indicator.

Source: Primary Care Mortality Database, Health and Social Care Information Centre

## Policy and Strategy

The All-Party Parliamentary Group<sup>51</sup> enquiry into respiratory deaths recommends effective treatment interventions to reduce mortality from COPD, including:

- non-invasive ventilation,
- home oxygen,
- controlled oxygen dosing to minimise oxygen toxicity, and
- pulmonary rehabilitation programmes.

The Quality Outcomes Framework (QOF) requires general practices to maintain a register of people with COPD. In 2012/13, recorded levels of COPD in Lincolnshire practices were between 1.9% and 2.4%. QOF data suggests that there are more than 5,000 people in Lincolnshire with COPD who are not on a COPD register.

'An Outcomes Strategy for Chronic Obstructive Pulmonary Disease (COPD) and Asthma in England'<sup>47</sup> sets out how the NHS, public health and social care services can contribute to achieving a reduction in deaths from respiratory disease. Best practice solutions to achieve this focus on working with people with COPD and asthma as equal partners in their care.<sup>45</sup>

The 'Cold Weather Plan for England 2013'<sup>52</sup> highlights the increased risk of ill health during cold weather for those with

COPD, as well as an increased risk of pneumonia. The plan highlights the importance of flu and pneumococcal vaccination programmes for people suffering from these diseases.

Guidance from the National Institute of Health and Clinical Excellence (NICE) for COPD<sup>53</sup> provides advice on the diagnosis, treatment and care of adults with COPD. It again emphasises patient-centred care, and makes similar clinical recommendations to those given in the All-Party Parliamentary Group enquiry into respiratory deaths.

## How is Premature Mortality from Respiratory Diseases Being Addressed?

A range of partners work together to reduce mortality from respiratory diseases. These include:

- respiratory networks, which encourage best practice in respiratory health, working across primary and secondary healthcare services,
- NHS England, which commissions the delivery of immunisation programmes, and provides strategic guidance on vaccination to providers (currently GP practices) and monitors uptake,
- GP practices, who currently deliver immunisation programmes,

- the Tobacco Alliance, which supports smoke free spaces, and promotes an understanding of the damage caused by second hand smoke,
- United Lincolnshire Hospitals Trust, and other secondary care providers, which are able to provide opportunistic vaccination for 'at risk' patients during admission,
- The Health and Safety Executive in their role of supporting a safer working environment, with particular reference to reducing hazards that increase the risk of individuals developing COPD,
- local businesses, through the provision of occupational health services that support those with COPD to continue working, and remain healthy at work, and
- third sector partners, such as the British Lung Foundation, which offer support and advice on self management to those with COPD.

Work to reduce smoking, and to reduce the effects of second-hand smoke on others, impacts on many causes of premature mortality, particularly respiratory diseases. Reducing the number of people who smoke is known to have a significant impact on reducing the prevalence of COPD, and thus also reducing the PYLL to this cause.

Influenza (flu) and pneumococcal vaccination are particularly important for people with COPD, as these infections can be more serious in this group. Pneumococcal vaccination is part of the national childhood immunisation programme in the UK. The pneumococcal conjugate vaccine (PCV) is given at two months old, with boosters at four months and 12-13 months. In 2013/14, the uptake for the final PCV booster (by the age of two) was 94.5% in Lincolnshire, compared with 95.2% in the East Midlands and 92.4% in England.<sup>54</sup>

Pneumococcal vaccination for adults was introduced in August 2003 for those aged 80 years and over. Vaccination was extended to those aged 75 years and over in April 2004, and to those aged 65 years and over in April 2005. For those over 65 years old, a single dose of pneumococcal polysaccharide vaccine (PPV) is given. Most healthy adults develop a good antibody response to this by the third week following immunisation, but there is some evidence to suggest that post immunisation antibodies start to wane after five years.<sup>55</sup> Re-vaccination is also recommended for other groups at high risk of infection, such as those with heart disease or chronic renal disease. The uptake of PPV in Lincolnshire in 2012/13 was 69.7% compared with 70.7% in England as a whole.

The current PCV covers 13 different serotypes (variations in a species of bacteria or viruses) that can cause infection, and the current PPV covers 23 variants of invasive pneumococcal disease, accounting for about 96% of those found in the UK. Evidence suggests that PCV is effective in reducing cases of pneumonia in children,<sup>56</sup> and that PPV is effective against pneumococcal disease in adults.<sup>57</sup>

## Next Steps

An estimated 80% of those with COPD are current or ex-smokers.<sup>58</sup> Reducing smoking prevalence would, over time, reduce the number of people with COPD in Lincolnshire by 16,000, with corresponding reductions in drug costs and emergency admissions to hospital.

Estimates<sup>59</sup> suggest that many people have undiagnosed and untreated COPD. Increasing the proportion of people whose COPD is identified early should ensure that these people receive timely treatment, thus reducing the debilitating effect of COPD on their lives.

Individuals with COPD can take positive action to improve their own health. Support that enables individuals to 'self-care', including expert patient and local support groups, can be particularly valuable, and is an area which could be further considered.

Increasing the proportion of people receiving pneumococcal vaccination would significantly reduce the number of people admitted to hospital with pneumonia. Using information from the King's Fund, it is estimated that this could result in a saving of £4 million in Lincolnshire each year.





# Accidents and unintentional injuries

## Background

The term 'accident' implies an unpredictable, and therefore unavoidable, event. As most injuries and their preceding events are both predictable and preventable, the term 'unintentional injury' is more appropriate.

Unintentional injuries are a significant public health issue, being a major cause of avoidable ill health, disability and death, and having a disproportionately large effect on those living in deprived communities.

Office of National Statistics data (2010)<sup>60</sup> suggests that injuries are the leading cause of death in children aged 1-4 years, and the second greatest cause of death in children aged 10-14 years.

"Injuries are a leading cause of hospitalisation and represent a major cause of premature mortality for children and young people. They are also a source of long term health issues, including mental health related to experience(s)."<sup>10</sup>

Accidents and injuries are also extremely costly to the NHS; nationally an estimated £275 million annual cost just for injuries affecting children and young people.<sup>61</sup> The Audit Commission<sup>62</sup> suggests that an unplanned admission to hospital following an accident/avoidable injury in the home may cost £16,900.

Road traffic accidents are costly in both economic and human terms. Casualty figures from the Department for Transport<sup>63</sup> suggest costs of:

- Fatality £1,703,822
- 'Serious' accident £ 191,462
- 'Slight' accident £ 14,760

Each year, thousands of people in Lincolnshire suffer injuries that require hospitalisation, treatment in emergency departments or from general practitioners, or other treatment that does not involve formal medical care.

Serious injuries can have a life-long impact on physical and cognitive abilities, as well as on psychological well-being. Individuals may have to spend a significant amount of time in hospital, and/or require long-term treatment as outpatients. Sustaining a spinal injury, or losing limbs or your sight, may impact on physical abilities, whilst head injuries can result in changes to cognitive abilities and personality.

Individuals may experience vivid, traumatic flashbacks of the accident. Post-traumatic stress, depression and anxiety are all common after a serious accident, and survivors who experience any of these conditions will need ongoing psychological care to achieve good mental health.

Accidents can also be life-changing for the families of those with serious injuries. They may need to provide care and assistance for the person during ongoing hospital treatment, or when attending regular outpatient appointments. Alternatively, they may need to provide practical long-term care at home. All of these may require the carer to be away from work for significant amounts of time.

Moreover, depending on the person's injuries, the family may have to make alterations to their home, car and lifestyle to accommodate their needs.

Losing a family member, especially a child, in an accident is devastating for families; for some, it can lead to family breakdown, job loss and depression. Some individuals never recover from the trauma of the sudden and violent death of a loved one. Bereaved families need ongoing support to cope with their loss, and to guide them through procedures such as inquests and court hearings.

## Causes and Risk Factors

NICE (2010)<sup>64</sup> identifies groups that are at greater risk of injury, by age and by other characteristics. Children under the age of five years are more likely to sustain an injury at home, whilst children aged 11 years and over are more likely to be injured on the road.

Children and young people most likely to sustain an injury that requires medical intervention include:

- disabled children (including those with physical and/or learning disabilities),
- children from low-income families, and
- children living in certain types of accommodation (such as multiple occupancy housing, social and privately rented housing, temporary accommodation, and high rise flats).

The Marmot Review<sup>65</sup> identified the social gradient of accidents and avoidable injuries affecting children, both in the home and on the road, suggesting that deprivation in itself increases the risk of sustaining an avoidable injury.

Nationally every year, around 19,000 cyclists are killed or injured in reported road accidents, including around 3,000 who are killed or seriously injured.<sup>66</sup>

Unintentional injuries, including trips and falls, are common in older adults, being associated with poor eyesight, and problems with balance and mobility. Accidents and injuries in adults of all ages are often associated with excess alcohol consumption and the use of illicit drugs.

## Facts and Figures

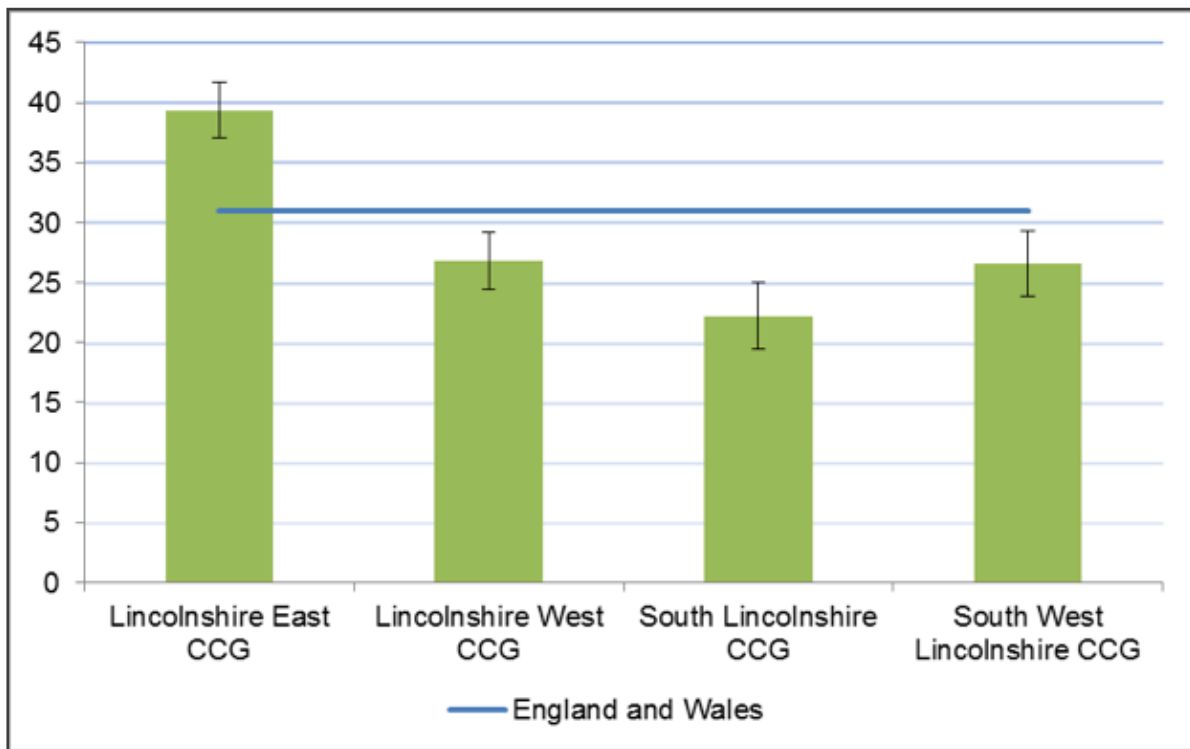
During the period from 2010 to 2012, 226 people aged under 75 died in accidents in Lincolnshire. This accounts for just over 3% of all premature deaths in the county. Fewer people died because of an accident than from other significant causes of premature death, such as stroke. However, the amount of potential years of life lost (PYLL) from accidents is twice as high as that from strokes. This is because accidents can affect all age groups, and frequently affect children and younger people, as well as older groups.

During 2011/12, 6,086 children aged 0-4 years attended Emergency Departments in Lincolnshire because of accident or injury.<sup>67</sup> In 2012/13, the rate of hospital admissions in the county for children aged 0-4 years, as a result of either unintentional or deliberate injuries, was 147.4 per 10,000 of the under-5 years population, which, statistically, was

significantly higher than the England average.<sup>10</sup> The rate for children aged 0-14 years was also statistically significantly higher than the East Midlands and England averages (112.5 per 10,000 population for Lincolnshire, compared with 86.8 for the East Midlands and 103.8 for England).

Across Lincolnshire's CCG areas, the PYLL due to accidents and unintentional injuries are lower than observed nationally, with the exception of Lincolnshire East CCG. The difference between Lincolnshire East and the other CCGs in the county is statistically significant. This is predominantly due to the higher number of people killed on the roads in this part of the county. The number of people killed or seriously injured in road traffic accidents in East Lindsey is amongst the 10% highest in the country, consistent with the fact that, in England, rural districts have higher levels of death and serious injuries through road accidents than urban areas.

Figure 6.1: PYLL from accidents and unintentional injuries, directly standardised rate per 10,000 population in Lincolnshire, 2010/12



Source: Primary Care Mortality Database, Health and Social Care Information Centre

At lower levels though, the picture is more complicated. Premature mortality is correlated with quintile of deprivation in the county. However, the picture of mortality across the county does not match the recognisable view of deprivation in Lincolnshire. Rather, there is a concentration of mortality from this cause through the centre of the county from north to south, and between Lincoln and Boston. Accidents on the roads are likely to be a cause of this picture, with residents in these areas making the most frequent, potentially hazardous journeys.

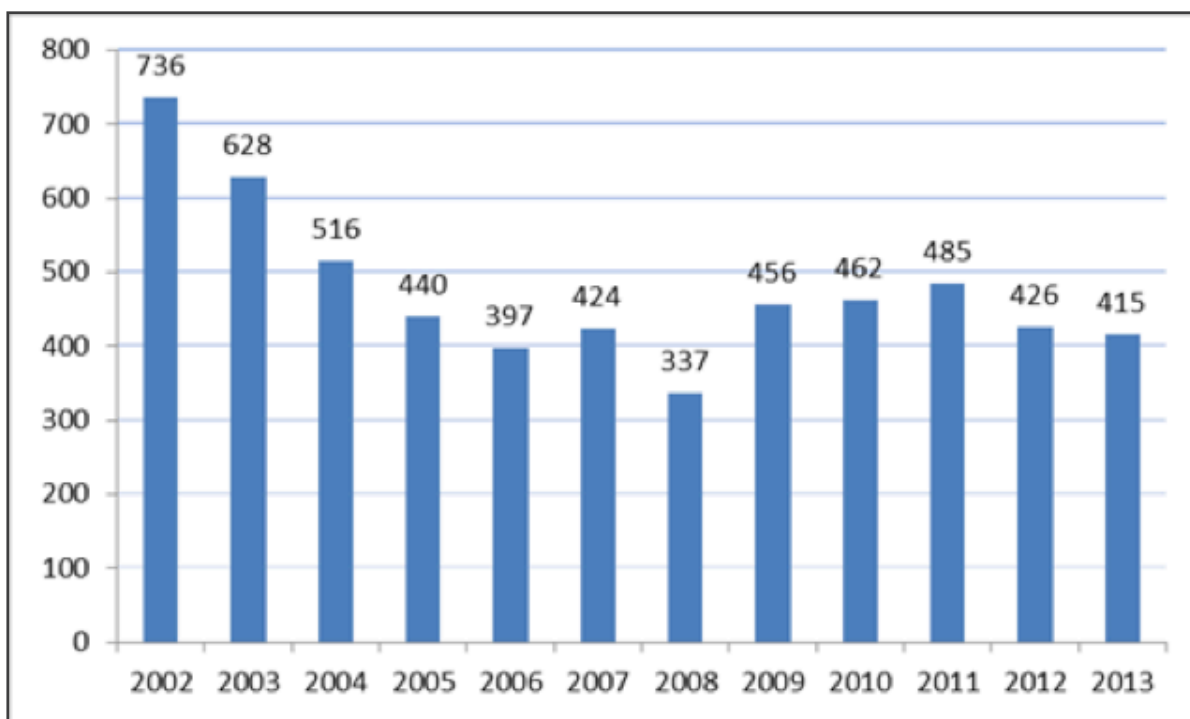
Between 2010 and 2012, traffic accidents accounted for around half of the PYLL due to accidents in Lincolnshire: 16 per 10,000 residents, compared to 9 in England and Wales. Thus, PYLL from land traffic accidents in the county was significantly higher than the national average.

However, as shown in figure 6.2, there has been a substantial reduction in the number of people killed or seriously injured (KSI) on Lincolnshire's roads since the 1990s.





Figure 6.2: The number of people killed or seriously injured on Lincolnshire's roads, 1994-2013



Source: Department for Transport



Nonetheless, although there was a year on year reduction in the number of KSIs from 2002 to 2007, this reduction was not sustained. From 2008 to 2011 the number of KSIs increased, but still remained significantly lower than the number of KSIs in the 1994-98 baseline period. More recently, the downward trend has resumed, and early indications suggest this will continue for 2014. Thus, in 2012, there was a 14% reduction

in the number of KSIs, with a further 2.6% reduction in 2013. Indeed, 2013 saw only 36 fatalities on Lincolnshire's roads, the lowest figure ever recorded in the county.

There was considerable variation across Lincolnshire in the number of KSIs, as illustrated in figure 6.3.

Figure 6.3: Crude rate of those killed or seriously injured on Lincolnshire's roads in 2012

Area Name	Number killed or seriously injured	Population (thousands)	Number killed or seriously injured per 100,000 population
England	21,626	53,493.7	40.4
Boston	37	64.8	57.1
East Lindsey	106	136.6	77.6
Lincoln	34	94.6	35.9
North Kesteven	64	109.3	58.6
South Holland	69	88.5	78.0
South Kesteven	53	135.0	39.2
West Lindsey	63	90.0	70.0

Source: Department for Transport

Statistically, only South Kesteven and Lincoln had KSI rates significantly lower than the England average. South Holland and East Lindsey had nearly double the England rate of KSIs on the road.

## Policy and Strategy

There is a range of specific policies and strategies relating to accident reduction.

In 2014, the World Health Organisation provided guidance for addressing inequities in unintentional injuries.

Nationally, the Department for Transport created a 'Strategic Framework for Road Safety' in May 2011, which suggests a partnership approach to continuing to reduce killed and seriously injured casualties on Britain's roads. There is also a report from the Chief Medical Officer (CMO), 'Our Children Deserve Better: Prevention Pays', which is produced annually, and which focusses on children and young people's health, including death and injury by accidents. Similarly, the Marmot Review, 'Fair society, Healthy Lives', includes specific information relating to accidents. Of the national outcomes frameworks, the Public Health Outcomes Framework includes specific indicators that are relevant.

Locally, the Lincolnshire Road Safety Partnership creates forward strategies and delivery plans to specifically target road accidents. These include ambitious targets, and require partners such as Lincolnshire County Council, the police, Fire

& Rescue and the NHS to work together in order to achieve them. 'Road Traffic Collisions' and 'Falls' are both topics of the Lincolnshire Joint Strategic Needs Assessment, the evidence base which informs the Joint Health and Wellbeing Board.

## How is Premature Mortality from Accidents Being Addressed?

Evidence shows that many accidents are preventable, but that a strategic and coordinated approach is required at both the national and the local level to reduce avoidable injuries. By preventing accidents, we safeguard people and reduce costs. Ratios for the financial savings brought about by spend on injury prevention include 50:1 for bicycle helmets and 17:1 for smoke alarms.<sup>68</sup>

In 2013, 415 people were killed or seriously injured on Lincolnshire's roads, a lower number than the local improvement target, although clearly every avoidable death and serious injury is a concern. In the same period, 22 children were killed or seriously injured in a road traffic collision in the county, again lower than the reduction target.

Injuries affecting children under five years old, which are most likely to occur at home, can be prevented by the installation of home safety equipment, such as stair gates and window locks, which successfully mitigate the most serious types of injury.<sup>69</sup> There is strong evidence to suggest that an effective, and cost effective,<sup>70</sup> way of reducing avoidable injuries for this age group is through:

- providing targeted home safety assessments,
  - installing home safety equipment, and
  - offering high quality 'home safety' education.
- communicating safety messages through print and social media; and
  - providing advice and information on home safety to professionals.

Many vulnerable families do not purchase home safety equipment for a variety of reasons, including not knowing what equipment to buy or where to buy it, not having the financial resources to purchase equipment, and an assumption that fitting safety equipment is complex.<sup>70</sup>

Lincolnshire Fire and Rescue (LFR) provide home safety assessments, and fit equipment, for households referred to them by Children's Centres. In 2013/14, approximately 350 home safety assessments, and associated provision of home safety equipment, took place across Lincolnshire. Each locality commissions on the basis of available funding, and therefore assessments and fittings are subject to this limitation.

The 'Safe At Home Scheme', led by the Royal Society for the Prevention of Accidents (RoSPA), devolved funding to local areas for the provision of home safety equipment to targeted families. The evaluation of this programme<sup>71</sup> provides a useful source of data on the delivery, costs, effectiveness and acceptability of home safety equipment schemes. Of the families surveyed, 90% were satisfied with the equipment they received, and felt that their home was safer.

Action to reduce premature mortality due to road traffic accidents is led by the multi-agency Lincolnshire Road Safety Partnership (LRSP). LRSP involves the co location of road safety specialists from the police, the County Council and LFR, who work together and share their expertise with the aim of reducing road casualties in Lincolnshire. The safety camera team is also based within the LRSP, which means that all activities relating to road safety education, engineering and enforcement are co ordinated from the LRSP.

LRSP's strategy for road safety is underpinned by the Department for Transport's 'four Es': evaluation, education, engineering and enforcement. The following groups are local priorities:

- young drivers between the ages of 17 and 24 years,
- car drivers, with particular emphasis on business drivers,
- pedestrians,
- riders of two wheeled motor vehicles, and
- pedal cyclists.

The Avoidable Injuries in Children Group is a multi-agency partnership that works to reduce unintentional injuries in children. Key areas of activity include:

- delivering the RoSPA home safety equipment and training sessions;

## Next Steps

Evidence from NICE suggests that implementing a range of measures, such as traffic calming and the use of cycle helmets, will reduce the number of people killed or seriously injured on the road. If these measures only halved the number of those killed or seriously injured, Lincolnshire would save £35 million over 10 years, based on Department for Transport casualty costs.

NICE guidance also suggests that the use of home safety equipment, such as stair gates, can significantly reduce the number of accidents in the home affecting children aged 0-4 years. Reducing the number of A&E attendances by 50% would save nearly £350,000 each year in Lincolnshire.







# Chronic Liver Disease

## The Condition

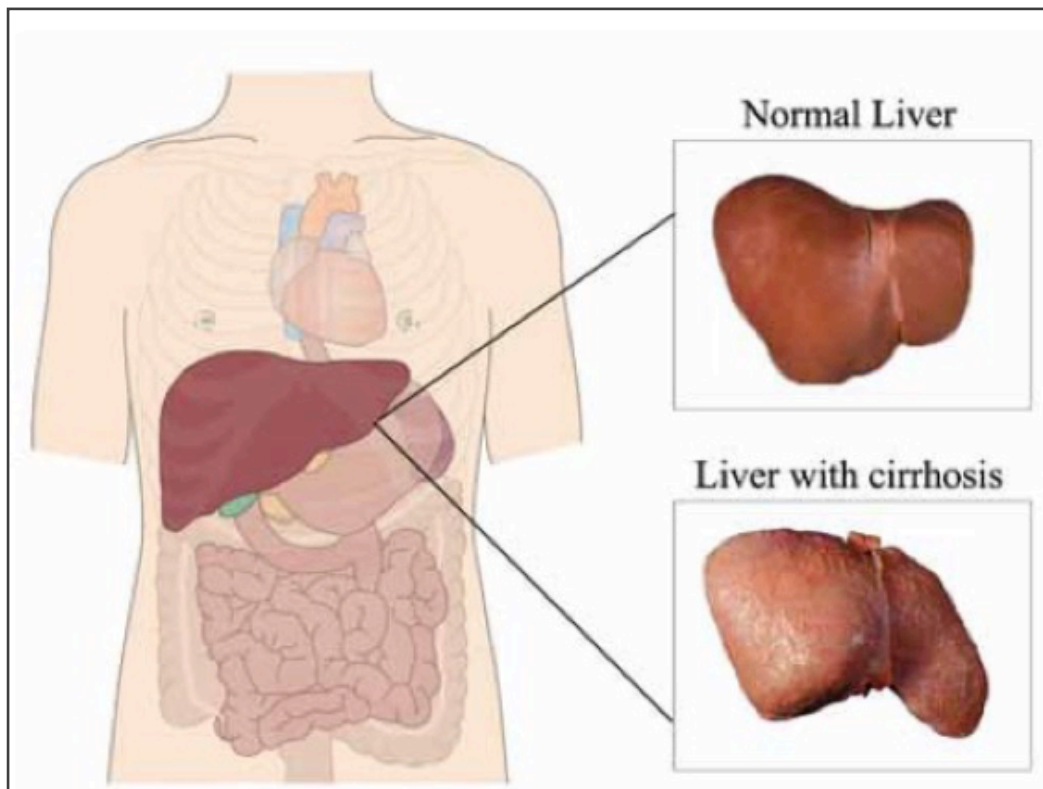
Mortality rates from liver disease in the UK have increased 400% since 1970, and in people younger than 65 years they have risen by almost five-times.<sup>72</sup>

Chronic liver disease is a broad term that covers all the long-term potential problems and diseases that cause the liver to fail in the performance of its designated functions. The liver is responsible for many crucial functions within the body, including filtering toxins from the blood, aiding digestion, regulating blood sugar and cholesterol levels, and helping to fight infection and disease. Loss of liver function can cause significant damage to the body. Liver disease is also referred to as hepatic disease.

The liver is very resilient and is capable of regenerating itself. Each time the liver filters alcohol, some of the liver cells die. The liver can develop new cells, but prolonged alcohol misuse over many years can reduce the liver's ability to regenerate, resulting in serious long term damage.

The liver responds to injury by becoming inflamed, known as hepatitis. Chronic hepatitis describes the condition where the inflammation lasts for a considerable amount of time (over 6 months). Repeated injury prevents new liver cells from being regenerated quickly enough, and scarring, called fibrosis, remains. Simple lifestyle interventions and changes can manage the condition in its early stages, and can reverse some or all of the damage, but, without this, the inflammation and fibrosis can continue to spread, often without symptoms.

Figure 7.1: Diagram showing the location of the liver and its appearance with cirrhosis



Source: British Liver Trust

As chronic liver disease can often progress without symptoms, or with very mild ones, for many people the condition is only discovered during unrelated, or seemingly unrelated, tests. Both the symptoms and the side effects of treatment can have huge impacts though, including discomfort and pain for the patient, and anxiety and depression which can affect the patient and their relatives. Without intervention chronic liver disease can result in significant side effects and can require major treatment and even major surgery. Most patients admitted to hospital with the disease have serious end-stage liver disease, cirrhosis, or liver failure. Patients with end-stage liver disease often require medication to control the amount of

protein absorbed in the diet and can suffer lethargy, confusion, or even coma. Diuretic treatments may be required to minimise water retention, and for those with large amounts of fluid in the abdominal cavity, this may need to be removed by syringe using local anaesthetic. Operations may be required to treat portal hypertension and minimize the risk of bleeding.

As chronic liver disease progresses, cirrhosis develops and ultimately there is liver failure. Associated complications may include increased risk of bleeding and infection, malnutrition and weight loss, and decreased cognitive function. Some liver



diseases are associated with an increased risk of developing liver cancer. Liver transplantation is the final option for patients whose livers have failed.

Despite liver disease having many different forms and causes, the three main types are alcohol-related liver disease, non-alcoholic fatty liver disease and viral hepatitis.

### Alcohol-related liver disease

Three-quarters of all deaths from liver disease are the result of excess alcohol consumption.<sup>72</sup> In alcohol-related liver disease (ARLD), the liver is damaged after years of alcohol misuse, which can lead to cirrhosis (irreversible damage to the liver). It covers a range of conditions and associated symptoms, although usually few symptoms will be evident until there has been severe damage to the liver. At this point, the sufferer may experience nausea, weight loss, loss of appetite, jaundice, swelling in the ankles and abdomen, confusion, drowsiness and blood in either the vomit or faeces.

### Non-alcoholic fatty liver disease

Non-alcoholic fatty liver disease (NAFLD) is a build-up of fat within liver cells, usually seen in people who are overweight or obese, and who do not drink more than the recommended guideline amounts of alcohol. In the early stages, fat accumulates in the liver cells without any inflammation or scarring, but for some people, the disease may progress to cause cirrhosis. Most people categorised as being obese have non-alcoholic fatty liver disease and many,

up to 1 in 20 of the UK population, will have ongoing inflammation and scarring which finally leads to cirrhosis. Of those with cirrhosis, 5–10% will get liver cancer.<sup>72</sup>

### Viral Hepatitis

Viral hepatitis is inflammation of the liver caused by a viral infection. Some types of hepatitis may pass without causing permanent damage, but other types may persist for many years and cause cirrhosis. In the most serious cases, hepatitis can lead to liver failure or liver cancer, both of which can be fatal. Hepatitis B and C directly cause liver disease.

The hepatitis B virus can be found in blood and in bodily fluids. It is uncommon in this country with most cases being found in certain groups, such as drug users. Most people infected are able to fight off the virus and fully recover within a couple of months. However, small minorities of people develop a long-term infection known as chronic hepatitis B. In some, chronic hepatitis B causes cirrhosis or liver cancer. Chronic hepatitis B is treatable with antiviral medication, and a vaccination is available for preventing hepatitis B.

Hepatitis C is the most common type of viral hepatitis in the UK, affecting around 214,000 people,<sup>73</sup> and caused by the hepatitis C virus. This can be found in the blood and, to a much lesser extent, other bodily fluids of an infected person. Hepatitis C often causes no, or only mild, symptoms, which may be easily mistaken for the flu. Some will fight off the infection and fully recover, but for around three-quarters of those infected, the virus will remain for many years, and may

cause cirrhosis and liver failure. Chronic hepatitis C can be treated with antiviral medication, but there is currently no vaccine for the virus.

Other types of viral hepatitis also exist, including types A, D and E. Around 350 cases of Hepatitis A are reported each year, most of which are contracted abroad, however it is usually a short-term infection, which does not lead to chronic liver disease. Types D and E are both very rare in the UK. Hepatitis D, caused by the hepatitis D virus, is only present in people already infected with hepatitis B. It can increase the risk of developing cirrhosis. Hepatitis E, caused by the hepatitis E virus, is generally a mild and short-term infection, caught through ingestion of contaminated faeces.

## Causes and Risk Factors

Alcohol-related liver disease is widespread in the UK, and has been increasing due to rising levels of alcohol misuse. Excessive consumption of alcohol is the major risk factor in ARLD.

Non-alcoholic fatty liver disease is associated with people who are overweight or obese, have a poor diet, and/or are inactive. Therefore, the major risk factors are related to excess weight, poor nutrition and low physical activity levels.

As the hepatitis B virus is found in blood and bodily fluids, it can be spread during unprotected sex, by sharing needles to inject drugs, and by being passed from pregnant women to their babies. The hepatitis C virus is found in the blood and, to a much lesser extent, the saliva and semen or vaginal fluid of an infected person. As it is particularly concentrated in the blood, it is usually transmitted through blood-to-blood contact. In England, it is most commonly spread through sharing needles to inject drugs, which accounts for 9 out of 10 cases.

## Facts and Figures

The scale of liver disease in Lincolnshire, as well as across the UK, is increasing due to the increase in the three main causes described. This is in stark contrast to the majority of EU countries, where mortality from liver disease is falling. Between 2001 and 2012, the number of people who died in England with an underlying cause of liver disease rose from 7,841 to 10,948. This represents a 40% increase in all liver disease deaths during this period, and is in contrast to other major causes of disease, which have been declining. Over the last ten years, the rate of mortality in Lincolnshire in those aged under 75 years from all forms of liver disease has increased by around 35%, in line with national trends.

Despite the Lincolnshire average (94.8 hospital admissions due to liver disease per 100,000 people) being lower than the East Midlands (121.8) and England (113) averages, the number of people in the county being diagnosed with liver disease is continuing to rise. According to the latest PHE Liver Disease Profile, the key findings underlying this continuing increase are the correlated rise in people with excess weight (over

two-thirds in Lincolnshire) and the number drinking alcohol at increased or higher risk levels (around a quarter in Lincolnshire), leading to 2,013 alcohol-specific hospital admissions in 2012/13.<sup>74</sup> With obesity and alcohol consumption rates continuing to increase, the link to the increase in non-alcoholic fatty liver disease and alcoholic liver disease prevalence is clear.

In Lincolnshire, in the three-year period from 2010 to 2012, more than 200 people under the age of 75 years died specifically from chronic liver disease, accounting for nearly 3% of all premature deaths, with men being twice as likely as women to die prematurely from the disease. It is also estimated that there were nearly 19 PYLL due to chronic liver disease per 10,000 residents, similar to the England average. In both cases, these figures only include recorded mortality from alcoholic liver disease, chronic hepatitis and fibrosis or cirrhosis of the liver.

The national implications are serious. It is estimated that liver disease alone costs the NHS £0.5 billion per year, and that this is increasing by 10% year on year. Of liver disease cases, 95% are attributed to poor lifestyle choices, with the other 5% being due to autoimmune conditions.<sup>75</sup>

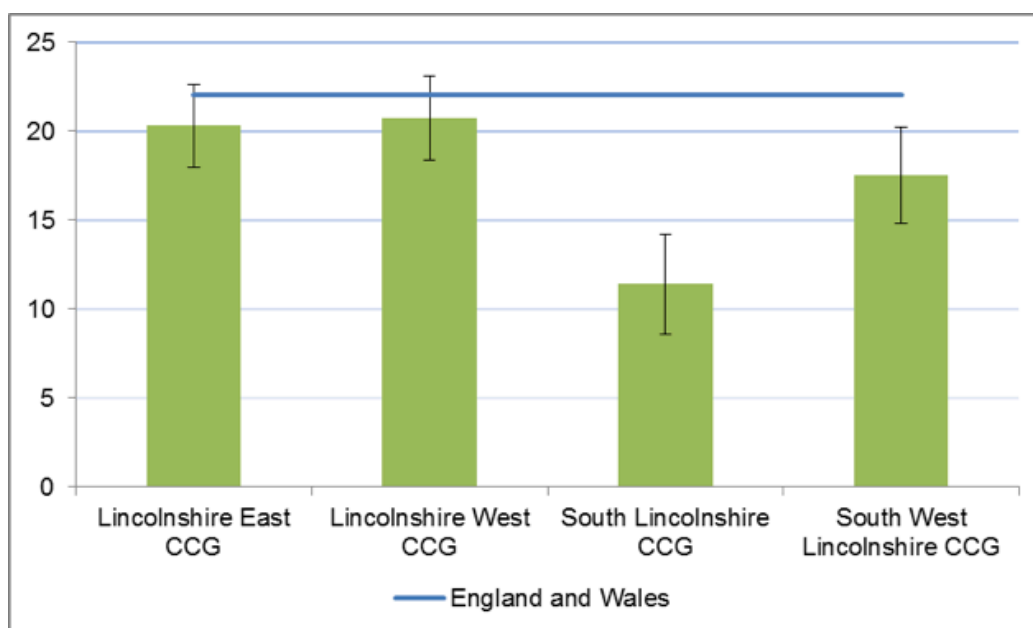
In Lincolnshire this clearly puts a huge strain on lifestyle services, many of which are working at maximum capacity but only engaging with approximately 5% of the population need. Furthermore, drug and alcohol services in the county are seeing an increase in referrals year on year. This highlights the importance of brief interventions and educating individuals about the risks of unhealthy behaviours and, more importantly, how they may self-manage these issues. Each year, the NHS sees 94.8 hospital admissions per 100,000 population for Liver Disease, which Lincolnshire cannot sustain in the current financial climate and health profile of the county.

Within the county, PYLL due to chronic liver disease in Lincolnshire East and Lincolnshire West CCGs is similar to the national level. However, in South West Lincolnshire CCG and South Lincolnshire CCG levels are lower. South Lincolnshire CCG has rates of PYLL just above half the national level, and significantly lower than any other CCG in Lincolnshire. Alcohol-harm indicators of mortality and hospital admission are lower in the districts in the south of the county (South Holland and South Kesteven) than in other districts in Lincolnshire, impacting upon the figures for these CCGs.

Although Lincolnshire is relatively less deprived than average, there are still large areas of deprivation along the coastal strip, and in areas such as Lincoln, Boston, Grantham and Gainsborough, which are associated with higher levels of increased-risk drinking, drug use and obesity.<sup>54</sup> There are also pockets of rural deprivation in the county. Whilst these issues are clear risk factors in chronic liver disease, premature mortality from this cause is not clearly correlated with deprivation, reflecting the fact that this disease affects those from a wide range of backgrounds and environments.



Figure 7.2: PYLL from Chronic Liver Disease, directly standardised rate per 10,000 population in Lincolnshire, 2010/12



Source: Primary Care Mortality Database, Health and Social Care Information Centre

## Policy and Strategy

National policies and strategies in relation to obesity, physical activity, alcohol and drugs all partially address the issue of liver disease although, as yet, there is no national liver disease policy.

The NHS five-year forward plan highlights the major risk factors of obesity and alcohol, and the strain on the NHS of treating related conditions. It draws attention to the importance of prevention in tackling health inequalities, and of empowering and motivating individuals to improve their own health.

Locally, there are no NHS targets relating to adult obesity. However, the government's 'Call to Action on Obesity' does address the major risk factor for non-alcoholic fatty liver disease. The Lincolnshire Joint Strategic Needs Assessment (JSNA) obesity topic highlights the importance of physical activity, weight management support and improved access to healthier food and healthy eating, as determinants of obesity. The Joint Health and Wellbeing Strategy (JHWS) for Lincolnshire also highlights the Council's aims regarding obesity, physical activity, alcohol consumption and illegal drug use. The strategy describes how these aims will be achieved, using a multi-disciplinary approach, through locally-developed networks and partnerships.

The government's alcohol policy highlights the need for local support for individuals and organisations in tackling the associated issues of alcohol misuse, the major risk factor associated with alcohol-related liver disease. The government's strategy, 'Reducing Demand, Restricting Supply, Building Recovery: supporting people to live a drug free life'

will help to tackle the viral causes of the spread of hepatitis.

Locally, Lincolnshire's drug and alcohol strategy promotes responsible drinking to prevent alcohol- and drug-related harm, tackles alcohol- and drug-related crime and anti-social behaviour and aims to deliver high quality systems for alcohol- and drug-misuse treatment.

## How is Premature Mortality from Chronic Liver Disease Being Addressed?

Public Health commissions services and works closely with local partners and providers to reduce the prevalence of liver disease and its related causes. These activities include a number of those detailed in appendix I, such as Weight Watchers, local cooking and growing sessions, physical activity programmes (Vitality, Exercise Referral, and Health Walks) and the Health Trainer Scheme.

In addition to the work relating to obesity and physical activity, alcohol-treatment services have seen an increase in numbers, from 845 to 1,320 (56%) in Lincolnshire between March 2012 and March 2014. PHE also announced in October that there had been a national increase of over 5% in people accessing treatment services nationally.

The five-year Lincolnshire Alcohol and Drug Strategy 2014-19, coordinated by Public Health, has a partnership-wide delivery plan, which incorporates the themes of prevention, enforcement and treatment. This is supplemented by other work, such as 'It's that easy' (providing alcohol-prevention work in schools), the 'Pharmacy Project' (a pilot initiative on alcohol screening and intervention based in

pharmacies) and the 'Blue Light Project' (looking to improve the techniques and approaches used with treatment-resistant problem drinkers). The Alcohol Concern initiative 'Dry January' is also supported locally, and ongoing screening for, and vaccination against, hepatitis C and B respectively is carried out by treatment services across the county.

Lincolnshire's NHS Health Check programme provides NHS colleagues with an opportunity to promote the benefits of a healthy lifestyle, and to recommend changes the patient may need to make in relation to liver-disease-related risk factors. Public Health continues to work more generally with partners to develop a culture of health and wellbeing.

## Next Steps

The evidence on the risks of liver disease and its three main causes is clear, and it is important that services tackle these issues in order to reduce overall liver disease prevalence, and the PYLL through this cause. As services develop, and the health profile of the county continues to change, it is imperative that Public Health continues to work across organisations to provide the best possible results for local residents. This includes working with Lincolnshire's NHS Trusts, Local Authorities and associated stakeholders, private organisations (such as pharmacies), CCGs, and the voluntary community sector. This approach will improve the impact of key health messages delivered to the public, and reinforce messages. This approach will also ensure that those who need support are able to access local services.

Chronic liver disease is largely preventable; 95% of cases are attributable to poor lifestyle. Therefore, future work must continue to look at developing lifestyle services, as well as continuing to support those that already exist. Further analysis on liver disease in Lincolnshire will be carried out this year to inform public health prevention and early intervention work, building on the evidence base of the Alcohol Health Needs Assessment.

It is clear that, both nationally and within Lincolnshire, issues related to liver disease and its causes need to be tackled. In part, this will be done by continuing to deliver support services which enable individuals to make healthy lifestyle changes. Local organisations must also be clear about what messages need to be delivered to the public, taking into account why individuals and populations continue with unhealthy behaviours. These services and key health messages will be delivered across the county, with particular emphasis on areas with a high prevalence of liver disease. It is also vitally important that we provide the public with consistent health messages across different organisations, including across the voluntary sector. This will ensure that messages and services are aligned with Public Health's aims and objectives, and that more of the "hard to reach" population have access to help and support, enabling individuals to address issues before they progress to requiring admission to hospital.

It is important that Public Health continue to work with the NHS and CCGs to develop and deliver strategies aimed at reducing obesity, drug- and alcohol-misuse, and raising awareness of the risks of hepatitis.







# Recommendations

- Multi-agency work in Lincolnshire should continue to address lifestyle and behavioural factors, such as smoking, obesity, physical inactivity and drug- and alcohol-misuse.
- The number of brief interventions given across organisations in Lincolnshire should be increased, whilst ensuring that MECC is systematically embedded. This will enable advice and intervention to be provided opportunistically and where appropriate, and will allow health messages to reach more individuals more often. This will also improve signposting across organisations, and improve the public's experience.
- Where appropriate, lifestyle interventions should be tailored to individuals with specific conditions and early indications of disease.
- Partners should work together to facilitate the early identification of risk factors through increased uptake of periodic NHS health checks. Although health check uptake is above the national level, participation figures remain low. Work is needed at GP level and county level to offer health checks to the eligible population, and to encourage uptake of appointments.
- It must be ensured that individuals identified by the health check as having, or being at risk of developing conditions related to premature mortality are appropriately followed up in general practice, and that they receive appropriate lifestyle and pharmacological interventions or onward referral.
- Work should be undertaken with CCGs to increase the number of people on specific disease registers, such as the COPD register, closing the gaps between the number of people who suffer from conditions and those recorded on registers. This could include raising public awareness of signs and symptoms, encouraging those living with conditions to enquire whether they are on a GP disease register, and workforce development, such as more training for staff in primary care in order to increase the proportion of people receiving early and accurate diagnoses.
- Work should be done to improve the management of long-term conditions (LTCs). Many people with conditions such as COPD report that it limits their daily living, particularly when they have an exacerbation of their disease. GP practices should work with pharmacies to ensure that patients are targeted for Medicines Use Reviews, as this can improve management of LTCs. Commissioners must ensure that they are commissioning high quality services targeted at LTCs, including nurse-led community teams and rehabilitation programmes.
- Systematic care pathways are required for LTCs, in line with the Lincolnshire Joint Health and Wellbeing Strategy. The use of care pathways developed elsewhere, such as 'map of medicine' for COPD, should be increased to support timely diagnosis and effective treatment.
- Lincolnshire Public Health should work closely with Clinical Commissioning Groups to deliver the Lincolnshire Tobacco Control Strategy, assisting tobacco users to quit.
- Lincolnshire Public Health should continue to promote the benefits and opportunities available for physical activity across all age ranges of the population.
- Work should continue through specific initiatives, and with partners such as NHS England, to further improve the uptake of cancer screening programmes.
- There should be further focus on early cancer diagnosis through work with health professionals and the public.
- NHS commissioners should continue to work with providers of healthcare to enable people to receive the best outcomes in cancer treatment and care.
- Monitoring of suicide and death by undetermined causes across the county should continue; the resulting evidence enabling us to work better with partners to address causes, and deliver interventions and pathways that could save lives. This should include the development of a suicide surveillance system, incorporating appropriate information sharing and reporting.
- More people should be trained through the SafeTALK and ASIST programmes, working closely with commissioned providers and raising awareness of how to talk to someone who you think might be at risk of suicide.
- Lincolnshire Public Health should work with a full range of organisations to create an action plan for suicide prevention, working together to better provide people with the help they need, and making sure that frontline staff have the skills and information to help people at risk.
- The proportion of 'at risk' patients receiving pneumococcal vaccination should be increased. It is important that the individuals at greatest risk, including smokers, substance misusers and those with LTCs receive pneumococcal vaccination. Both the development of initiatives to engage vulnerable groups, and working with service providers to raise awareness of the importance of PPV vaccination, could contribute to this.

- Local data sharing on road collisions should be improved, particularly around trend and causation data, to supplement intelligence gained from Stats19, and allow a more accurate picture to be drawn. Stats19, the Department for Transport's collision statistics, are generally believed to underreport the number of road collisions, however, an accurate understanding is crucial in identifying and directing effective road safety interventions.
- A home safety assessment scheme which targets vulnerable families should be commissioned, as it is recognised that many do not purchase home safety equipment. This could include providing targeted home safety assessments in partnership with Lincolnshire Fire and Rescue, home safety equipment installation for those financially unable to purchase equipment themselves, and high quality 'home safety' education.
- Public awareness of liver disease, its causes, and associated risks to life and quality of life should be improved. If people chose to follow a healthy lifestyle of not smoking, being a healthy weight, being physically active and not drinking to excess, they could potentially add 14 years of chronological age at death.<sup>76</sup>
- The multi-agency Alcohol and Drug Strategy should be implemented, including primary prevention and systematic use of brief interventions, such as NHS Health Checks.
- Further analysis on liver disease in Lincolnshire should be carried out to inform public health prevention and early intervention work, building on the evidence base of the Alcohol Health Needs Assessment.

# Appendix 1: Intervention Matrix

Interventions		Cause of premature mortality					
		Cancer	Circulatory disease	Suicide and undetermined causes	Respiratory disease	Accidents and unintentional injuries	Chronic liver disease
Weight Management Programme	A weight-management service for people with a Body Mass Index of 30+.	✓	✓				✓
Physical Activity Programmes	A range of programmes that support people to participate in physical activity (for example, Exercise on Referral and Health Walks).	✓	✓				✓
Smoking Cessation and Tobacco Control Programmes	A range of programmes, such as those designed to help tobacco users to quit and reduce people's exposure to second-hand smoke.	✓	✓		✓		
Food and Nutrition Programmes	A range of programmes that support people to eat a 'healthy' diet (for example, community growing and cooking schemes).	✓	✓				✓
Alcohol Reduction Programmes	A range of programmes that aim to promote responsible drinking, prevent alcohol-related harm and deliver alcohol-treatment systems.	✓	✓	✓		✓	✓
Making Every Contact Count	A programme that uses opportunities to talk to individuals about improving their health and well-being.	✓	✓	✓	✓		✓
Health Trainers	A service that works with those in circumstances which put them at risk of poor health.	✓	✓	✓	✓		✓



Interventions		Cause of premature mortality					
		Cancer	Circulatory disease	Suicide and undetermined causes	Respiratory disease	Accidents and unintentional injuries	Chronic liver disease
NHS Health Check Programme	A programme that aims to prevent heart disease, stroke, diabetes, kidney disease and certain types of dementia through the carrying out of a risk assessment and provision of appropriate interventions.	✓	✓		✓		✓
Home Safety Programmes	A range of programmes that promote home safety (for example, safety assessments, installation of equipment, and education).					✓	
Road Safety Programmes	A range of programmes that promote road safety (for example, education and enforcement).					✓	
Immunisation and Vaccination Programmes	The provision of vaccines as part of the NHS vaccination schedule (for example, the HPV vaccine).	✓			✓		✓
Suicide Prevention Programmes	A range of programmes that address the prevention of suicide (for example, training to identify signs and symptoms).			✓			
Promoting Symptom Awareness Programmes	Programmes to help individuals and professionals identify signs and symptoms of disease, thus enabling early diagnosis (for example, the Early Presentation of Cancer (EPOC) programme).	✓					
Cancer Screening Programmes	Three national cancer screening programmes are delivered by the NHS (breast, cervical and bowel).	✓					

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The Annual Report of the Director of Public Health on the Health of the People of Lincolnshire 2014 is available on the Lincolnshire County Council website at [www.lincolnshire.gov.uk/residents/public-health](http://www.lincolnshire.gov.uk/residents/public-health)  
It can also be found on the Lincolnshire Research Observatory website at [www.research-lincs.org.uk](http://www.research-lincs.org.uk)

I hope you enjoy reading this report and find something in it which will enable you to take action to improve the public's health. We would be more than happy to arrange for a member of Public Health to present further on this report. If you or your organisation would like additional information or discussion, please contact us on 01522 552902 in the first instance.



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